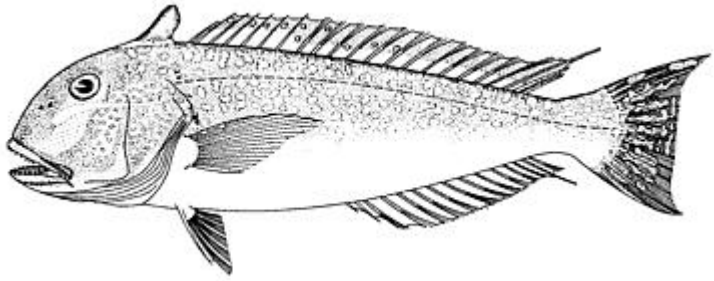
November 2006 - October 2007
Tilefish Specifications,
Draft Environmental Assessment,
Essential Fish Habitat Assessment,
Regulatory Impact Review,
and
Initial Regulatory Flexibility Analysis



July 26, 2006

Prepared by the

Mid-Atlantic Fishery Management Council

In cooperation with the

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1.0 EXECUTIVE SUMMARY

Pursuant to the Magnuson Stevens Fishery Conservation and Management Act of 1976 (MSFCMA) as amended by the Sustainable Fisheries Act (SFA), the Northwest Atlantic stock of golden tilefish (*Lopholatilus chamaeleonticeps*) is managed by the Mid-Atlantic Fishery Management Council (MAFMC or Council) in cooperation with the National Marine Fisheries Service (NMFS) through the Federal Tilefish Fishery Management Plan (FMP). This document has been prepared in accordance with the FMP as part of the specification process through which the Council recommends a commercial quota for tilefish. Additionally, the environmental impacts of the recommended management actions and the anticipated level of significance of these impacts have been addressed in accordance with the National Environmental Policy Act of 1969 (NEPA) and NAO 216-6.

Initiation of the Federal Tilefish FMP began in 1999 in response to the NMFS Northeast Fisheries Science Center (NEFSC) stock assessment that indicated that the tilefish stock (north of North Carolina) was at a low biomass level and was over exploited (Nitschke *et al.* 1999). Total biomass in 1998 was estimated to be 6.8 million pounds, which was about 35% of the biomass that would produce maximum sustainable yield (B_{MSY}). Biomass-based fishing mortality was estimated to be 0.45, which was about double the F_{MSY} of 0.22. Total landings in 1998 were 2.7 million pounds and significantly less than the estimated MSY (4.2 million pounds). Landings are somewhat seasonal, but do occur throughout the year. Fishing mortality rates in the late 1990s were unsustainable. There had been a shift in the exploitation pattern towards smaller fish. The SFA required that a management program be developed immediately for this species and that targets and thresholds for stock size and fishing mortality be established.

The management unit for this FMP is defined as all golden tilefish (*Lopholatilus chamaeleonticeps*) under United States jurisdiction in the Atlantic Ocean north of the Virginia/North Carolina border. Tilefish south of the Virginia/North Carolina border are currently managed as part of the Fishery Management Plan for the Snapper-Grouper Fishery managed by the South Atlantic Fishery Management Council.

Pursuant to the Federal Tilefish FMP, the following management measures were instituted to meet the objectives:

1. Permit and reporting requirements for commercial vessels, operators and dealers.
2. The establishment of a Tilefish FMP Monitoring Committee.
3. The implementation of a framework adjustment process.
4. A 10 year stock rebuilding schedule with 50% probability of achieving the rebuilt B_{MSY} stock level.
5. A commercial quota divided into full-time (with two different tiers), part-time, and incidental categories.
6. A trip limit for the incidental category (non-longline).
7. Limited entry for the full-time (both tiers) and part-time quota categories.
8. Identification and description of essential tilefish habitat (EFH).

The overall goal of the FMP is to rebuild tilefish so that the optimum yield can be obtained from this resource. In order to meet that goal, the FMP was to eliminate overfishing and rebuild the tilefish stock through a constant harvest strategy that would significantly reduce fishing mortality every year in the ten year rebuilding time frame. Fishing mortality was to be reduced from an F of 0.45 (1998) to an F of roughly 0.30 in year 2000. The resource was to be fully rebuilt to B_{MSY} in 10 years with 50% probability. The 10-year rebuilding schedule with a constant harvest strategy had a projected

total allowable annual catch of 1.995 million pounds. In November 2000, the Tilefish Technical Team reviewed an NEFSC analyses (Nitschke pers. comm.) that calculated the fishing mortality estimate that occurred in 1999. The importance of this determination was the actual selection between two rebuilding schedules which differed only in the assumption of what occurred in 1999. The Tilefish Technical Team concluded that the 1999 F was below the threshold 0.312 and thus the rebuilding schedule would yield an annual quota of 1.995 million pounds until a new "benchmark" stock assessment was performed.

The Council envisioned using a Tilefish Monitoring Committee to review any benchmark stock assessments and recommend to the Council, who then recommends to the Secretary, changes to any quota. The language of the FMP (section 1.2.1.2) states:

"The Tilefish Monitoring Committee is a joint committee made up of staff representatives of the Mid-Atlantic Fishery Management Council, the Northeast Regional Office, the Northeast Fisheries Science Center, state representatives and a non-voting industry advisor. The state representatives may include any individual designated by an interested state from Maine to Virginia. There can be a maximum of three state representatives with the New England states having one representative and the Mid-Atlantic States having a maximum of two representatives. There is also a non-voting industry advisor who is appointed by the Council Chairman. The Mid-Atlantic Council Executive Director or his designee will chair the Committee.

"Under the preferred quota alternative (section 1.2.1.5), landings in the first fishing year would be set at 1.995 million pounds (Table 3). While the preferred alternative is a constant harvest strategy, there would be annual quota reductions for previous overages of the quota. There would also be a "benchmark" stock assessment conducted at the NEFSC sponsored SARC/SAW every three years from which the specifics of the B_{MSY}, F_{MSY}, and other biological reference points could change which thus could warrant changes in the actual TAL. The strategy itself would not change, in that the 10 year rebuilding duration, with 50% probability of achieving the B_{MSY} target, and the TAL are the measures used by the Committee and Council to get to the target.

"The Tilefish Monitoring Committee is responsible only for establishing recommendations for the annual quotas and management measures to restrict fishing so as not to exceed the quotas. There are a wide variety of management measures that are frameworked (section 1.2.1.3) but the Council initiates and considers those measures. Thus, the Monitoring Committee actually considers only the annual quotas unless directed by the Council Chairman to evaluate those measures that are frameworked. The Monitoring Committee is convened after the completion of a "benchmark" stock assessment and/or at the direction of the Council Chairman. The Monitoring Committee should review landings data in its evaluation of the annual quotas. If directed by the Council Chairman to consider any frameworked management measures, the Committee can obviously consider any relevant available data. It is the Council's intent not to alter the annual quota if a benchmark stock assessment is not conducted prior to a certain fishing year. In the absence of a Council recommendation, the annual quotas will not change from one fishing year to the next except that the Regional Administrator may readjust the quotas to account for overages in the previous fishing year."

In June 2005, a benchmark stock assessment was conducted at the 41st SARC (NEFSC 2005). The results of that stock assessment (Appendix 1) indicate that the golden tilefish stock is not overfished and overfishing is not occurring. Fishing mortality in 2004 was estimated to be 87% of the Fmsy level. Total biomass in 2005 was estimated to be 72% of the Bmsy level. The stock biomass in 2005 is above that projected for 2005 in the 1998 assessment (59% of Bmsy).

This most recent stock assessment information on tilefish (NEFSC 2005) was presented to the Councils' Tilefish Monitoring Committee (section 11 for membership) at its April 24th 2006 meeting. The Monitoring Committee reviewed the entire assessment and although they were concerned about: 1) the large amount of uncertainty, 2) the fact that the working group that produced the stock assessment and the SARC felt they could not make projections, 3) the fact that one strong year class (1999) is supporting the majority of the fishery, 4) the last strong year class (1993) that supported the fishery was fished out quickly, and 5) that there are few larger/older fish -- the Monitoring Committee still agreed with the NEFSC stock assessment tilefish biologist (Paul Nitschke). In Nitschke's presentation to the Monitoring Committee he concluded with three points: 1) "The current assessment model could be used to support a "SMALL" increase in the TAC, 2) "SMALL" to him is under 10%, and 3) If the current strong year class does not persist then the current model is incorrect and there will likely be a large shift in the estimated ASPIC model reference points."

An industry member, who is part of the Tilefish Monitoring Committee, and another industry member who a Council member, advocated at the April 24 meeting that there should be a 9% increase in the tilefish quota. Their rationale was that with the implementation of the FMP in November 2001, the quota was calculated in terms of "landed" weight of tilefish. The 1999 assessment (Nitschke *et al.* 1999) was conducted with "live" weight and in May 2005 the Regional Office began recording the landings in units of live weight instead of landed weight. There is a 9% difference between the way the fish are landed (gutted only) and the live weight. Thus, industry believes they "lost" 9% of the quota in May 2005. Industry believes that a 9% quota increase, to recapture their former total landings, would not be detrimental to the stock.

Council staff presented the 2005 stock assessment and the conclusion from the Monitoring Committee to the Council's Surfclam/Ocean Quahog and Tilefish Committee at their meeting of May 3 2006. The Council staff did not have a specific quota recommendation but concluded with the recommendations that the Committee should: 1) recognize the uncertainty throughout the assessment, 2) recognize that one year class is currently supporting the fishery, 3) recognize that the scientists involved with the assessment and the Monitoring Committee can not readily tell the difference between the 1.995 current million pound quota that is reported in live weight and the 2.175 million pound quota that corresponds to the previous landed weight quota, 4) recognize that the 2.175 million pound quota is the landings prior to May 2005 and the resource is rebuilding, 5) recognize the industry desire to recapture their previous landings, 6) solicit any additional advice from the Regional Office and the Science Center, and 7) make a policy call. This Committee (section 11 for membership) responded with a vote of five in favor and two abstaining (Regional Office and Committee Vice Chair) for a 9% increase that corresponds to the difference between "live weight" and "landed weight".

Later on May 3rd the Surfclam/Ocean Quahog and Tilefish Committee reported to the Council and recommended the 9% increase. After considerable debate the entire Council passed the following motion: "On behalf of the Surfclam/Ocean Quahog and Tilefish Committee, I move that the Council recommend to NMFS that the TAC for tilefish be increased from 905 mt to 987 mt (live weight) beginning with the fishing year that starts on November 1, 2006." The vote was 14 in favor, two opposed, and the Regional Administrator and Ms. Laurie Nolan abstaining. The intent of this document is to justify this quota change from 1.995 million pounds (905 mt) to 2.175 million pounds (987 mt) of live weight to begin at the start of the 2006-2007 fishing year and to continue until the next tilefish stock assessment is completed. The next tilefish stock assessment is tentatively scheduled for the spring of 2009

Table ES-1 presents a qualitative summary of the impacts of the three quota alternatives.

Alternative 1 – (Mid-Atlantic Council Preferred Alternative): Specify the commercial quota of 2.175 million pounds (987 mt) of live weight. The total quota will continue to be divided among two full time, one part time, and an incidental category as specified in the FMP. This is effectively the quota that was in effect between November 2001 and May 2005 (with the exception of when the quota was suspended due to a lawsuit which even resulted in 107% of the quota in 2003 and 134% of the quota in 2004 being landed). This 9% quota increase corresponds to the difference between calculating the quota in "live weight" versus "landed weight".

This alternative is consistent with the Tilefish Monitoring Committee's recommendations, the Surfclam/Ocean Quahog and Tilefish Committee's recommendation and the Council recommendation. Alternative 1 is expected to continue the stock recovery (Figures 1 and 2). Additionally, relative to the status quo, no impacts are expected on non-target species, habitat including EFH, or protected resources. The human community could have a small benefit by as much as 9% increase in revenue if a direct relationship between landings and price existed.

Alternative 2 – (Intermediate quota): Specify the commercial quota of 2.095 million pounds (950 mt) of live weight. The total quota will continue to be divided among the four user categories as specified in the FMP. This intermediate quota is roughly half way between the difference of calculating the quota in "live" versus "landed" weight.

Alternative 2 is expected to continue the stock recovery (Figures 3 and 4). Additionally, relative to the status quo, no impacts are expected on non-target species, habitat including EFH, or protected resources. The human community could have a small benefit by as much as 5% increase in revenue if a direct relationship between landings and price existed.

Alternative 3 – (No Action and Status Quo): Specify the commercial quota of 1.995 million pounds (905 mt) of live weight. The total quota will continue to be divided among the four user categories as specified in the FMP. This status quo quota is a continuation of reporting landings as "live" weight which was initiated in May 2005.

Alternative 3 would maintain the status quo (since May 2005) quota for FY2006/2007. Implementation of Alternative 3 would be expected to maintain status quo conditions for rebuilding the resource and result in no changes to the non-target species, habitat including EFH, protected resources or the human environment in FY2006/2007 compared to the current condition.

Table ES-1. Qualitative summary of the expected impacts of three alternatives considered for the tilefish quota recommendations.

Proposed Federal Action		**Valued Ecosystem Component (VEC)**				
Tilefish Management Alternatives		**Target Fishery**	**Non-target Species**	**Protected Species**	**Habitat (including EFH)**	**Human Communities**
Alt. 1	Quota: 2.175 million pounds live weight Trip Limits: no change Timeframe: until new assessment	**Small Negative** Mortality would remain roughly same since implementation of FMP and resource is rebuilding (Fig 1 and 2)	**No Impact** Discarding not an issue as fishery is extremely clean (Tables 7 and 9)	**No Impact** P.R. encounters not an issue with bottom longline gear	**No Impact** Habitat impacts not an issue as longlines only cause low impacts to some habitats (NEREFHSC 2002)	**Small Positive** Potentially as much as a 9% increase in revenues if direct relationship between amount landed and price
Alt. 2	Quota: 2.095 million pounds live weight Trip Limits: no change Timeframe: until new assessment	**Possible Small Negative** Mortality may be slightly less than under Alt 1 (Figures 3 and 4)	**No Impact** Discarding not an issue as fishery is extremely clean (Tables 7 and 9)	**No Impact** P.R. encounters not an issue with bottom longline gear	**No Impact** Habitat impacts not an issue as longlines only cause low impacts to some habitats (NEREFHSC 2002)	**Small Positive** Potentially as much as a 5% increase in revenues if direct relationship between amount landed and price
Alt. 3	Quota: 1.995 million pounds live weight Trip Limits: no change Timeframe: until new assessment	**No Impact** Status quo conditions would be maintained, mortality may be slightly less than under Alt 1 (Fig 5 and 6)	**No Impact** Discarding not an issue as fishery is extremely clean (Tables 7 and 9)	**No Impact** P.R. encounters not an issue with bottom longline gear	**No Impact** Habitat impacts not an issue as longlines only cause low impacts to some habitats (NEREFHSC 2002)	**Neutral** Maintain status quo revenue

2.0 LIST OF ACRONYMS

ACFCMA	Atlantic Coastal Fisheries Cooperative Management Act
ASMFC	Atlantic States Marine Fisheries Commission or Commission
B	Biomass
CEQ	Council on Environmental Quality
CPUE	Catch Per Unit Effort
DPS	Distinct Population Segment
EA	Environmental Assessment
EEZ	Exclusive Economic Zone
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
EO	Executive Order
ESA	Endangered Species Act of 1973
F	Fishing Mortality Rate
FMAT	Fishery Management Action Team
FR	Federal Register
FMP	Fishery Management Plan
GRA	Gear Restricted Area
HPTRP	Harbor Porpoise Take Reduction Plan
IRFA	Initial Regulatory Flexibility Analysis
LTPC	Long-term Potential Catch
LWTRP	Large Whale Take Reduction Plan
M	Natural Mortality Rate
MAFMC	Mid-Atlantic Fishery Management Council
MMPA	Marine Mammal Protection Act
MRFSS	Marine Recreational Fisheries Statistical Survey
MSFCMA	Magnuson-Stevens Fishery Conservation and Management Act
MSY	Maximum Sustainable Yield
mt	metric tons
NAO	National Oceanic and Atmospheric Administration Order
NERO	Northeast Regional Office
NEFSC	Northeast Fisheries Science Center
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NRDC	Natural Resources Defense Council
OY	Optimal Yield
PBR	Potential Biological Removal
PRA	Paperwork Reduction Act
PREE	Preliminary Regulatory Economic Evaluation
RIR	Regulatory Impact Review
RSA	Research Set-Aside
SAFMC	South Atlantic Fishery Management Council
SARC	Stock Assessment Review Committee
SAV	Submerged Aquatic Vegetation
SAW	Stock Assessment Workshop
SMA	Small Business Administration
SSB	Spawning Stock Biomass
SFA	Sustainable Fisheries Act
TAL	Total Allowable Landings
TL	Total Length
VECs	Valued Ecosystem Components
VMS	Vessel Monitoring System
VPA	Virtual Population Analysis
VTR	Vessel Trip Report

3.0 LIST OF TABLES, FIGURES, AND APPENDIX

Tables, Figures, and an Appendix are located in consecutive order at the end of the document.

4.0 INTRODUCTION AND BACKGROUND OF SPECIFICATION PROCESS

4.1 Purpose and Need for the Action

The purpose of this action is to specify Federal tilefish management measures for fishing years 2006-2011 as authorized under the Tilefish FMP (MAFMC 2000) or until a new stock assessment is conducted. As required by the FMP, this action is needed to establish a commercial fishing quota after the recently (2005) completed benchmark stock assessment. There are no other management measures considered at this time for this specification package, but numerous issues are considered in Amendment 1 which is currently being developed by the Tilefish Fishery Management Action Team (FMAT) and which should be available for public hearings in early 2007.

4.2 Background, Management Objectives and Management Unit of the Tilefish FMP

The golden tilefish (*Lopholatilus chamaeleonticeps*) fishery is managed under the Tilefish Fishery Management Plan (FMP) that was prepared cooperatively in 1999 and 2000 by the Mid-Atlantic Fishery Management Council (Council) and the National Marine Fisheries Service (NMFS).

The FMP which initiated the management for this species became effective November 1, 2001 (66 FR 49136; September 26, 2001) and included management and administrative measures to ensure effective management of the tilefish resource. The FMP established Total Allowable Landings (TAL) as the primary control on fishing mortality. The FMP also implemented a limited entry program and a tiered commercial quota allocation of the TAL. There are three fishing categories, an incidental, a part-time, and a full-time category for division of the quota under the tilefish limited access program[1]. Under the FMP, the "target" estimate of landings for the incidental category (5 percent of the TAL) is first deducted from the overall TAL, and then the remainder of the TAL is divided among the full-time tier 1 category, which receives 66 percent; the full-time tier 2 category, which receives 15 percent; and, the part-time category, which receives 19 percent. Trip limits are currently only imposed in the incidental permit category (open access) to achieve a "target" or soft quota. Other elements of the FMP include: a stock rebuilding strategy; permits and reporting requirements for commercial vessels, operators, and dealers; a prohibition on the use of gear other than longline gear by limited-access tilefish vessels; and a framework adjustment process.

On October 26, 2001, the Natural Resources Defense Council (NRDC) filed a complaint with the Southern District Court of New York alleging that the lack of any restrictions on bottom tending mobile fishing gear (e.g., otter trawl nets) in essential fish habitat for tilefish rendered the FMP

[1] The following landings qualification criteria was used to assess entry into the limited access program: *Full-time Tier 1 category*: at leas 250,000 lb/yr for any three years between 1993-1998, at least 1 pound of which was landed prior to June 15, 1993; *Full-time Tier 2 category*: at least 30,000 lb/yr for any three years between 1993-1998, at least 1 pound of which was landed prior to June 15, 1993. *Part-time category*: at least 10,000 lb in any one year between 1988-1993 and at least 10,000 lb in any one year between 1994-1998 or 28,000 lb in one year between 1984-1993, at least 1 pound of which was landed prior to June 15, 1993.

and its implementing regulations arbitrary and capricious. A Federal Court order in NRDC v. Evans (March 31, 2003) upheld the agency action because there was no scientific evidence supporting the conclusion that bottom tending mobile fishing gear is having an identifiable adverse impact on tilefish essential fish habitat. Under the regulations in existence at the time the FMP was prepared, only an "identifiable" adverse effect on essential fish habitat from a fishing practice required consideration of measures to mitigate, minimize or prevent the impacts resulting from such fishing practice. The Judge concluded that plaintiffs' reliance on marks across parts of the ocean bottom caused by the fishing gear as evidence of an adverse impact was misplaced. While such marks may reflect a physical disruption of the bottom, there is no information according to the tilefish experts to demonstrate that this disruption had any effect to reduce the quality or quantity of tilefish essential fish habitat. Consequently, such physical disruption did not fit the definition of "adverse effect" in the regulations. In light of the absence of scientific information on the effects of fishing gear on tilefish essential fish habitat, the Judge found that the agency's analysis of the environmental impacts in the EIS was reasonable and a good faith presentation of the best information available under the circumstances.

A Federal Court Order in Hadaja v. Evans (May 15, 2003) set aside the permit requirements on the grounds that the FMP violated National Standard 2 of the MSFCMA because it was not based on the best scientific information available. This decision vacated the regulations that implemented subquotas for the various limited access categories out of order. In addition, the Federal Court Order in Hadaja v. Evans also set aside the restriction on the use of all gear other than longline gear for limited access tilefish vessels due to the lack of scientific information to support this ban. The Federal Court Order in Hadaja v. Evans held that "the Secretary must adopt a plan that is based on the best scientific information available, which may be the existing plan, but only if the evidence in the administrative record (record) clearly supports it" (69 CFR 22454; April 26, 2004).

After the MAFMC submitted additional detailed information that supported the limited access condition established under the FMP, the NMFS reinstated the permit requirements for commercial tilefish vessels on May 31, 2004. More specifically, in doing so, the NMFS reinstated the operator permit requirements; the vessel reporting requirements; the observer coverage regulations; and the incidental catch limit. In addition to reinstating the permit requirements, NMFS also removed the prohibition of the use of all gear other than longline gear for limited access vessels, which had previously been struck down by the Federal Court Order in Hadaja v. Evans. NMFS removed this prohibition due to the fact that scientific information to support reinstating the ban on the use of all gear other than longline gear in the directed tilefish fishery was lacking (69 CFR 22454; April 26, 2004).

The overall goal of the FMP is to rebuild tilefish so that the optimum yield can be obtained from this resource. In order to meet that goal, the FMP was to eliminate overfishing and rebuild the tilefish stock through a constant harvest strategy that would significantly reduce fishing mortality every year in the ten year rebuilding time frame. Fishing mortality was to be reduced from an F of 0.45 (1998) to an F of roughly 0.30 in year 2000. The resource was to be fully rebuilt to B_{MSY} in 10 years with 50% probability. The 10-year rebuilding schedule with a constant harvest strategy had a projected total allowable annual catch of 1.995 million pounds. In November

2000, the Tilefish Technical Team reviewed an NEFSC analyses (Nitschke pers. comm.) that calculated the fishing mortality estimate that occurred in 1999. The importance of this determination was the actual selection between two rebuilding schedules which differed only in the assumption of what occurred in 1999. The Tilefish Technical Team concluded that the 1999 F was below the threshold 0.312 and thus the rebuilding schedule would yield an annual quota of 1.995 million pounds until a new benchmark stock assessment was performed.

The Council envisioned using a Tilefish Monitoring Committee to review any "benchmark stock assessments" and recommend to the Council, who then recommends to the Secretary, changes to the annual quota. The language of the FMP (section 1.2.1.2) states:

"The Tilefish Monitoring Committee is a joint committee made up of staff representatives of the Mid-Atlantic Fishery Management Council, the Northeast Regional Office, the Northeast Fisheries Science Center, state representatives and a non-voting industry advisor. The state representatives may include any individual designated by an interested state from Maine to Virginia. There can be a maximum of three state representatives with the New England states having one representative and the Mid-Atlantic States having a maximum of two representatives. There is also a non-voting industry advisor who is appointed by the Council Chairman. The Mid-Atlantic Council Executive Director or his designee will chair the Committee.

"Under the preferred quota alternative (section 1.2.1.5), landings in the first fishing year would be set at 1.995 million pounds (Table 3). While the preferred alternative is a constant harvest strategy, there would be annual quota reductions for previous overages of the quota. There would also be a “benchmark” stock assessment conducted at the NEFSC sponsored SARC/SAW every three years from which the specifics of the B_{MSY}, F_{MSY}, and other biological reference points could change which thus could warrant changes in the actual TAL. The strategy itself would not change, in that the 10 year rebuilding duration, with 50% probability of achieving the B_{MSY} target and the TAL are the measures used by the Committee and Council to get to the target.

"The Tilefish Monitoring Committee is responsible only for establishing recommendations for the annual quotas and management measures to restrict fishing so as not to exceed the quotas. There are a wide variety of management measures that are frameworked (section 1.2.1.3) but the Council initiates and considers those measures. Thus, the Monitoring Committee actually considers only the annual quotas unless directed by the Council Chairman to evaluate those measures that are frameworked. The Monitoring Committee is convened after the completion of a “benchmark” stock assessment and/or at the direction of the Council Chairman. The Monitoring Committee should review landings data in its evaluation of the annual quotas. If directed by the Council Chairman to consider any frameworked management measures, the Committee can obviously consider any relevant available data. It is the Council’s intent not to alter the annual quota if a benchmark stock assessment is not conducted prior to a certain fishing year. In the absence of a Council recommendation, the annual quotas will not change from one fishing year to the next except that the Regional Administrator may readjust the quotas to account for overages in the previous fishing year."

In June 2005, a benchmark stock assessment was conducted at the 41st SARC (NEFSC 2005). The results of that stock assessment (Appendix 1) indicate that the golden tilefish stock is not overfished and overfishing is not occurring. Fishing mortality in 2004 was estimated to be 87% of the Fmsy level. Total biomass in 2005 was estimated to be 72% of the Bmsy level. The stock biomass in 2005 is above that projected for 2005 in the 1998 assessment (59% of Bmsy).

This most recent stock assessment information on tilefish was presented to the Councils' Tilefish Monitoring Committee (section 11 for membership) at its April 24, 2006 meeting. The Monitoring Committee reviewed the entire assessment and although they were concerned about: 1) the large amount of uncertainty, 2) the fact that the working group that produced the stock assessment and the SARC felt they could not make projections, 3) the fact that one strong year class (1999) is supporting the majority of the fishery, 4) the last strong year class (1993) that supported the fishery was fished out quickly, and 5) that there are few larger/older fish -- the Monitoring Committee still agreed with the NEFSC stock assessment tilefish biologist (Paul Nitschke). In Nitschke's presentation to the Monitoring Committee he concluded with three points: 1) "The current assessment model could be used to support a "SMALL" increase in the TAC, 2) "SMALL" to him is under 10%, and 3) If the current strong year class does not persist then the current model is incorrect and there will likely be a large shift in the estimated ASPIC model reference points."

An industry member, who is part of the Tilefish Monitoring Committee, and another industry member who a Council member, advocated at the April 24 meeting that there should be a 9% increase in the tilefish quota. Their rationale was that with the implementation of the FMP in November 2001, the quota was calculated in terms of "landed" weight of tilefish. The 1998 assessment was conducted with "live" weight and in May 2005 the Regional Office began recording the landings in units of live weight instead of landed weight. There is a 9% difference between the way the fish are landed (gutted only) and the live weight. Thus, industry believes they "lost" 9% of the quota in May 2005. Industry believes that a 9% quota increase, to recapture their former total landings, would not be detrimental to the stock.

Council staff presented the stock assessment and the conclusion from the Monitoring Committee to the Council's Surfclam/Ocean Quahog and Tilefish Committee at their meeting of May 3, 2006. The Council staff did not have a specific quota recommendation but concluded with the recommendations that the Committee should: 1) recognize the uncertainty throughout the assessment, 2) recognize that one year class is currently supporting the fishery, 3) recognize that the scientists involved with the assessment and the Monitoring Committee can not readily tell the difference between the 1.995 current million pound quota that is reported in live weight and the 2.175 million pound quota that corresponds to the previous landed weight quota, 4) recognize that the 2.175 million pound quota is the landings prior to May 2005 and the resource is likely rebuilding, 5) recognize the industry desire to recapture their previous landings, 6) solicit any additional advice from the regional office and the science center, and 7) make a policy call. This Committee (section 11 for membership) responded with a vote of five in favor and two abstaining (Regional Office and Committee Vice Chair) for a 9% increase that corresponds to the difference between "live weight" and "landed weight".

Later on May 3rd the Surfclam/Ocean Quahog and Tilefish Committee reported to the Council and recommended the 9% quota increase. After considerable debate the Council passed the following motion: "On behalf of the Surfclam/Ocean Quahog and Tilefish Committee, I move that the Council recommend to NMFS that the TAC for tilefish be increased from 905 mt to 987 mt (live weight) beginning with the fishing year that starts on November 1, 2006." The vote was 14 in favor, two opposed, and the Regional Administrator and Ms. Laurie Nolan abstaining. The intent of this document is to justify this quota change from 1.995 million pounds (905 mt) to 2.175 million pounds (987 mt) of live weight to begin at the start of the 2006-2007 fishing year and to continue until the next tilefish stock assessment is completed.

The overall goal of this FMP is to rebuild tilefish so that the optimum yield can be obtained from this resource. To meet the overall goal, the following objectives are adopted:

1. Prevent overfishing and rebuild the resource to the biomass that would support MSY.
2. Prevent overcapitalization and limit new entrants.
3. Identify and describe essential tilefish habitat.
4. Collect necessary data to develop, monitor, and assess biological, economic, and social impacts of management measures designed to prevent overfishing and to reduce bycatch in all fisheries.

The management unit is all golden tilefish (*Lopholatilus chamaeleonticeps*) under United States jurisdiction in the Atlantic Ocean north of the Virginia/North Carolina border (Figure 7).

5.0 MANAGEMENT ALTERNATIVES

5.1 Alternative 1 – (Mid-Atlantic Council Preferred Alternative)

The purpose of this action is to specify Federal tilefish management measures for fishing years 2006 - 2011 as authorized under the Tilefish FMP (MAFMC 2000) or until a new stock assessment is conducted. Specify the commercial quota of 2.175 million pounds (987 mt) of live weight. The total quota will continue to be divided among two full time, one part time, and an incidental category as specified in the FMP. This is effectively the quota that was in effect between November 2001 and May 2005 (with the exception of when the quota was suspended due to a lawsuit). This 9% quota increase corresponds to the difference between calculating the quota in "live weight" versus "landed weight".

This alternative is consistent with the Tilefish Monitoring Committee's recommendations, the Surfclam/Ocean Quahog and Tilefish Committee's recommendation and the Council recommendation. Alternative 1 is expected to continue the stock recovery (Figures 1 and 2). Additionally, relative to the status quo, no impacts are expected on non-target species, habitat including EFH, or protected resources. The human community could have a small benefit by as much as 9% increase in revenue if a direct relationship between landings and price existed.

5.2 Alternative 2 – (Intermediate quota)

Specify the commercial quota of 2.095 million pounds (950 mt) of live weight which is a 5% increase over the status quo. The total quota will continue to be divided among the four user categories as specified in the FMP. This intermediate quota is roughly half way between the difference of calculating the quota in "live" versus "landed" weight.

Alternative 2 is expected to continue the stock recovery (Figures 3 and 4). Additionally, relative to the status quo, no impacts are expected on non-target species, habitat including EFH, or protected resources. The human community could have a small benefit by as much as 5% increase in revenue if a direct relationship between landings and price existed.

5.3 Alternative 3 – (No Action and Status Quo)

Specify the commercial quota of 1.995 million pounds (907 mt) of live weight. The total quota will continue to be divided among the four user categories as specified in the FMP. This status quo quota is a continuation of reporting landings as "live" weight which was initiated in May 2005.

Alternative 3 would maintain the status quo (since May 2005) quota for FY2006/2007. Implementation of Alternative 3 would be expected to maintain status quo conditions for rebuilding the resource and result in no changes to the non-target species, habitat including EFH, protected resources or the human environment in FY2006/2007 compared to the current condition

6.0 DESCRIPTION OF THE AFFECTED ENVIRONMENT AND FISHERIES

This section serves to identify and describe the *valued ecosystem components* (VECs; Beanlands and Duinker 1984) that are likely to be directly or indirectly affected by the actions proposed in this document. These VECs comprise the affected environment within which the proposed actions will take place. Following the guidance provided by the Council on Environmental Quality (CEQ 1997), the VECs are identified and described here as a means of establishing a baseline for the impact analysis that will be presented in the subsequent document section (section 7 Analysis of Impacts). The significance of the various impacts of the proposed actions on the VECs will ultimately be determined from a cumulative effects perspective.

Identification of the Selected Valued Ecosystem Components

As indicated in CEQ (1997), one of the fundamental principles of cumulative effects analysis, is that "… the list of environmental effects must focus on those that are truly meaningful." As such, the range of VECs is described in this section is limited to those for which a reasonable likelihood of meaningful impacts could potentially be expected. These VECs are listed below.

1. Managed resources - golden tilefish stock
2. Non-target species
3. Habitat including EFH for the managed resources and non-target species
4. Endangered and other protected resources
5. Human communities

Golden tilefish (the managed resource VEC) is managed under the Tilefish FMP (MAFMC 2000). Any small changes to the quota are not expected to directly affect the condition of the stock as the most recent assessment (Appendix 1) indicates the resource is not overfished and overfishing is currently not occurring. That is, the proposed small quota changes are not expected to either reduce or expand significantly the direct harvest or bycatch of this species.

Similarly, small quota changes are not expected to change the distribution and/or magnitude of fishing effort for the managed resource that could indirectly affect the *non-target species* VEC (species incidentally captured as a result of fishing activities for the managed resources), the habitat VEC (especially types vulnerable to activities related to directed fishing for tilefish) and the *protected resources* VEC (especially those species with a history of encounters with the managed fisheries).

The *human communities* VEC could be slightly affected directly or indirectly through a variety of complex economic and social relationships associated with the managed species VEC.

Temporal Scope of the Selected VECs

The tilefish fishery began in 1879, but collapsed shortly thereafter, with mass mortalities in 1882 (Steimle *et al*. 1999). The stock began to recover in the late 1890s with an abundance of young

fish (Steimle *et al.* 1999). The species was again being fished and promoted by the United States Bureau of Commercial Fisheries when catches were first recorded in 1915 (325,000 pounds). A total of 10 million pounds was taken in 1916, which is the largest annual catch to date, but only 10,000 pounds were reported landed in 1920 (MAFMC 2000). Freeman and Turner (1977) stated that it was the market conditions that dictated the amount of fishing in the early years and not the abundance of tilefish. Landings were low during WW II but then rose during the 1950s to between 3 and 4 million pounds, followed by a decline in the late 1960s to less than 100,000 pounds (MAFMC 2000). Landings immediately after WW II were mainly by otter trawls. Poor prices in the market and increased competition for the available fish on the southern New England grounds from foreign vessels led fishermen away from fishing for tilefish. By the late 1960's tilefish were taken only incidentally with other, more sought after species of fish (Freeman and Turner 1977). Landings increased during the 1970's as the longline fleet developed and peaked in 1979 at 8.7 million pounds. Through the mid 1980's landings were around 4 million pounds, but jumped significantly to 7 million in 1987 and then plummeted to only 1 million pounds in 1989 (MAFMC 2000). For the 1990 to 2005 period, landings have ranged from 1.1 million pounds in 1999 to 4.1 million pounds in 1993 (Table 1).

While the effects of the historical fisheries are considered, the temporal scope of actions for *managed resources, non-target species, habitat and human communities* is primarily focused on actions that have occurred after FMP implementation since that is the initiation of management measures. For *endangered and other protected species*, the scope of actions is largely focused on the 1980s and 1990s through the present, when NMFS began generating stock assessments for marine mammals and turtles that inhabit waters of the U.S. EEZ.

The temporal scope of future actions for all five VECs, which include this proposed small quota increase, extends to 2011 when the resource is scheduled to be fully rebuilt. It is possible that Amendment 1 (scheduled for public hearings in spring 2007) could change the manner in which the fishery is managed and therefore will require additional analysis at that time. This period was chosen because the dynamic nature of resource management and lack of information on projects that may occur in the future makes it difficult to predict impacts beyond this timeframe with any certainty.

Geographic Scope of the Selected VECs

The overall geographic scope for the *managed resources, non-target species, habitat*, and *endangered and protected species* can be considered as the total range of these VECs in the Western Atlantic Ocean. The management unit identified in the FMP (section 4.2) covers a subset of the overall geographic scope, and is defined as the area under United States jurisdiction in the Atlantic Ocean north of the Virginia/North Carolina border (Figure 7). The analyses of impacts presented in this specification recommendation focuses primarily on actions related to the harvest of the managed resources.

Because the potential exists for far-reaching sociological or economic impacts on U.S. citizens who may not be directly involved in fishing for the managed resources, the overall geographic scope for *human communities* is defined as all U.S. human communities. Limitations on the

availability of information needed to measure sociological and economic impacts at such a broad level necessitate the delineation of core boundaries for the human communities. These are defined as those U.S. fishing communities directly involved in the harvest of the managed resource. These communities were found to occur in coastal states from Maine through Virginia. Communities heavily involved in the managed fisheries are identified in the port and community description (section 6.5). The directionality and magnitude of impacts on human communities directly involved in tilefish fishery will be a function of their level of involvement and dependence on this fishery.

6.1 TILEFISH STOCK AND FISHERIES

In the description of the managed resources VEC presented here, the focus is on stock status and those fishery activities that *directly* affect stock status. These include the harvest of a given species, as well as discarding. The life history and ecological relationships of tilefish were addressed in detail in section 2.1 of the FMP and additional information is presented in Appendix 1. A brief description of the stock is presented in the following paragraphs. Additionally, specific life stage habitat requirements are presented in section 6.3 (Habitat, Including EFH). Fishery activities and non-fishing activities that may affect habitat quality are considered to indirectly affect the managed resources. These are also considered in section 6.3.

6.1.1 Tilefish Biology and Ecological Relationships

Tilefish are found along the outer continental shelf from Nova Scotia, Canada to Surinam on the northern coast of South America (MAFMC 2000) in depths of 250 to 1500 feet. In the southern New England/mid-Atlantic area, tilefish generally occur at depths of 250 to 1200 feet and at temperatures from 48 - 62 ° F (MAFMC 2000). Fish have been observed from Norfolk to Lydonia Canyons, but the majority of the fishery is concentrated between Hudson and Veatch Canyons.

Tilefish are abundant in the southern New England/mid-Atlantic area, where a commercial fishery has existed since 1879; off southeastern Florida; and in the Gulf of Mexico. Over the range of tilefish, the distribution can be discontinuous with gaps occurring where benthic substrates are unsuitable for building and maintaining burrows (Steimle *et a*l. 1999). Management of the stock south of the Virginia/North Carolina border is covered by the South Atlantic Fishery Management Council snapper grouper FMP.

Tilefish are shelter seeking and perhaps habitat limited. There are indications that at least some of the population is relatively nonmigratory (MAFMC 2000).

The Magnuson-Stevens Act's National Standard 1 Guidelines establish specific stock status determination criteria for measuring the condition of a managed fishery resource. In the description of the managed resources VEC presented here, the conditions of the stocks, past, present or future, are described in comparison to the stock status determination criteria.

Specification of status determination criteria (Magnuson-Stevens National Standard 1):

Each FMP must specify, to the extent possible, objective and measurable status determination criteria for each stock or stock complex covered by that FMP and provide an analysis of how the status determination criteria were chosen and how they relate to reproductive potential. Status determination criteria must be expressed in a way that enables the Council and the Secretary to monitor the stock or stock complex and determine annually whether overfishing is occurring and whether the stock or stock complex is overfished. In all cases, status determination criteria must specify both of the following:

1) a maximum fishing mortality threshold or reasonable proxy thereof, and

2) a minimum stock size threshold or reasonable proxy thereof.

Two categories of mortality (natural mortality: M, and fishing mortality: F) contribute to total mortality (Z), the overall rate at which fish are removed from a given population (M + F = Z). Influences on natural mortality include disease, predation, senescence and any other non-human components of the ecosystem. Many of the ecological relationships for the managed resources have been identified, however, because of the complexity of these relationships, M is generally not directly estimated on an annual basis, and in most stock assessments the analyses focuses on fishing mortality and its relationship with stock size. This approach is consistent with providing information necessary to determine the status of a stock with regard to Magnuson-Stevens Act criteria (1) and (2) above. When an assessment indicates that fishing mortality has exceeded threshold levels, overfishing is said to be occurring. When an assessment indicates that stock size has fallen below the established threshold, then the stock is considered to be overfished. In either case, the Magnuson-Stevens Act requires that management measures be put in place to mitigate these outcomes. Several of the management actions implemented with the FMP were developed as a means of improving the conditions of the managed stock by mitigating the impacts of past and/or present fishing activities on the stock.

6.1.2 Status of the Tilefish Stock

The Northeast Fisheries Science Center's (NEFSC) Southern Demersal Working Group met in June 2005 to address the terms of reference for the 41st Stock Assessment Workshop (SAW 41). The 41st Stock Assessment Review Committee (SARC) panelist reports indicated acceptance of the stock assessment update (Appendix 1).

Updated estimates of biological reference points from the ASPIC model (B_{msy} = 20.69 million pounds; F_{msy} = 0.21; and MSY = 4.38 million pounds) did not greatly change from the 1998 assessment (B_{msy} = 18.62 million pounds; F_{msy} = 0.22; and MSY = 4.12 million pounds). For both assessments, F_{max} was the same (0.14). The updated stock assessment indicates that the stock is not overfished and overfishing is not occurring.

Fishing mortality was above F_{msy} for the 1978 to 1987 period. For the 1989 to 1998 period fishing mortality fluctuated above and below the $F_{msy.}$ However, since 1999, fishing mortality has been below F_{msy}. In 2004, fishing mortality was 0.18 or approximately 14% below F_{msy}.

Stock biomass was above B_{msy} for the 1978 to 1980 period, but since then it has been below B_{msy}. The stock biomass was below ½ Bmsy from 1988 through 2001; however, the biomass has increased to 14.8 million pounds or 72% of B_{msy}.

Estimates of recruitments for tilefish do not exist. Nevertheless, according to the 41st SAW assessment summary "strong recruitment events are evident in the size composition of the commercial landings. Most of the catch in 2003 and 2004 appears to have been from the 1999 year class with no signs of recruitment after this cohort."

6.1.3 Tilefish Catch

6.1.3.1 Commercial Catch

A brief historical description of the tilefish fishery is presented above (Temporal Scope of the Selected VECs). The modern tilefish longline fishery was developed in the 1970s after several periods of fishery contractions and expansions (MAFMC 2000).

Tilefish landings from Maine through Virginia are summarized in Table 1. For the 1990 to 2005 period, tilefish landings have ranged from 1.1 million pounds in 1999 to 4.1 million pounds in 1993. On average, for the 1996 to 2005 period, about 2.2 million pounds of tilefish were landed. Commercial landings in 2005 were approximately 1.5 million pounds or 33% below the average for 1996-2005.

The directed commercial fishery for tilefish is largely by longline. Otter trawls may also be used, but have limited utility because of the habitat preferred by tilefish. Otter trawls are only effective where the bottom is firm, flat, and free of obstructions. Soft mud bottom, rough or irregular bottom, or areas with obstructions, which are those that are most frequented by tilefish, are not conducive to bottom trawling. However, tilefish are often taken incidental to other directed fisheries, such as the trawl fisheries for lobster and flounder (Freeman and Turner 1977) and hake, squid, Atlantic mackerel and butterfish (NMFS, unpublished landings data).

Tilefish are primarily caught by bottom longline and otter trawl. Based on dealer data from 1996-2005, the bulk of the tilefish landings are taken by longline gear (89%) followed by bottom trawl gear (9%). No other gear had any significant commercial landings (Table 2).

6.1.3.1.1 Temporal and Geographic Patterns of Commercial Tilefish Harvest

The tilefish fishery takes place year-round (Table 3). It is typically most intense from October to June when the market value and catch rates are the highest.

Based on dealer data, over 97% of the landings occurred in the following three states: New York (76%), New Jersey (12%), and Rhode Island (9%). As indicated above, the vast majority of tilefish are taken by longline gear followed by otter trawl (Tables 2 and 4). Rhode Island and Connecticut were the only states whose primary gear for tilefish was otter trawl with 58% and 98% of their landings, respectively, by that gear during the past decade (Table 5). Longline landings for the three states with the greatest landings were approximately 96% of New York's total landings, 95% of New Jersey's total landings, and 41% of Rhode Island's total landings during the past decade.

Nearly 70% of the most recent landings were caught in statistical area 537 (Table 6), which includes Atlantis, Alvin, and Block Canyons. The second most landings occurred in statistical area 616, which includes Hudson Canyon. The third most landings were caught in statistical area 613, which includes Block Canyon. Less than 5% of the total landings were caught in statistical areas 525 (includes Veatch canyon), 526 (includes Veatch and Block canyons), and 533 (includes Hudson canyon).

6.1.3.1.2 Commercial Discards

According to VTR data, very little (< 0.01%) discarding was reported by longline vessels that targeted tilefish for the 1996 to 2005 period (Table 7). The 2005 stock assessment indicates that there is little reported discarding of tilefish in the otter trawl fishery according to VTR data (Appendix 1). For the 1994 to 2004 period, on average, otter trawls vessels discarded 3,466 pounds of tilefish. Tilefish otter trawls discards ranged from less than 1,000 pounds for most years to 28,713 pounds in 2003 (Appendix 1).

According to the latest stock assessment, observer data did not produce dependable discard estimates for tilefish. Discard to kept ratios for the 1989 to 2004 period ranged from zero in 1993 to 1.4 in 2001. Observer data also indicate that from 1989 to 2004, less than 15 trips were sampled that caught tilefish in twelve of the sixteen year period (Appendix 1).

6.1.3.2 Recreational Fishery

A small recreational fishery occurred briefly during the mid 1970's, with less than 100,000 pounds annually (MAFMC 2000). Subsequent recreational catches have been low for the last two decades ranging from zero for most years to less than 5,000 pounds in 2003 according to MRFSS data (Table 8).

Some Council members and stakeholders have indicated that the number of recreational trips targeting tilefish have increased in recent years. However, VTR data indicates that for the last 12 years (1994 to 2005) the number of tilefish caught by party/charter vessels from Maine through Virginia is minimal. The latest stock assessment indicates that for the 2000 to 2005 period, only 2 trips in the MRFSS data had tilefish reported as the primary target species (Appendix 1).

6.2 Non-Target Species

The non-target species VEC includes the major species incidentally captured and discarded as a result of directed fishing for the managed resources. When incidental catch is retained and landed, the catch is accounted for in the landings for that species. This is consistent with the definition of bycatch used by the NEFSC's bycatch estimation methodology (Rago *et al.* 2005). Discarding of managed resources by tilefish or other fishery activity is accounted for in the description of the managed resource VEC above.

The commercial fishery for tilefish is primarily prosecuted with bottom longline gear. Catch disposition analysis indicates that the tilefish fishery is very clean as the overall pounds landed and/or discarded of other species is low for directed tilefish trips.

Based on observer data, close to 100% of all the fish landed on directed tilefish trips for 2004 to 2006 (as of June 13) were tilefish (Table 9). A total of 15 species were harvested in addition to tilefish in 8 trips. Discard rates ranged from less than 100 pounds for most species to slightly over 20,000 for spiny dogfish. In fact, dogfish contributed approximately 97% of all the discards in directed tilefish trips. In addition, the small number of observed trips in the tilefish fishery makes discard evaluation using observer data difficult.

Based on VTR data, over 99% of all the fish landed on directed tilefish trips for the 1996 to 2005 were tilefish (Table 7). A total of 43 species were harvested in addition to tilefish in 1,263 trips. Most species had zero discard rates with the exception of red hake (0.07%), angler (0.15%), conger eel (0.75%), skates (3.75%), and spiny dogfish (93.37%). VTR data indicates that the dogfish contributed with the bulk of the discards (12,450 pounds) on directed tilefish trips for the 1996 to 2005 period. However, according to VTR data, the relative contribution of the tilefish fishery to the total discards of dogfish (all fisheries and gears) is very low accounting for less than 0.04% of the total dogfish discards for the 1996 to 2005 period.

6.3 Habitat Including EFH

The affected environment for management actions proposed in this document encompasses all of the tilefish EFH (Figure 7). Given the distribution of tilefish in the U.S. EEZ (Northwest Atlantic between Nova Scotia and Florida) this also includes EFH for many federally managed species. A more complete description of essential fish habitat for tilefish is given in section 2.2 in the FMP. A summary of that description is given here.

Eggs and Larvae: Tilefish eggs and larvae have EFH identified as the water column between the 250 and1200 foot isobath, from United States/ Canadian boundary to the Virginia/North Carolina boundary. Tilefish eggs and larvae are generally found in water temperatures from 46-66°F.

Juveniles and Adults: Tilefish juveniles and adults have EFH identified as benthic waters and substrate between the 250 and 1200 ft isobath, from United States/ Canadian boundary to the Virginia/North Carolina boundary. Tilefish are

generally found in rough bottom, small burrows and sheltered areas in water temperatures from 46-64°F.

As stated in the section 6.2, the current directed fishery is by mostly longline gear. Commercial gear types used to harvest tilefish also include bottom otter trawls (Tables 4 and 5). Of these gear types, the bottom otter trawl is the most likely to be associated with adverse impacts to habitat since it is a bottom-tending mobile gear. The primary impact associated with this type of gear is reduction of bottom habitat complexity (Auster and Langton, 1999). Directed fishing for tilefish is by longline gear and longlines cause only some low degree of impacts in mud, sand and gravel habitats (NEREFHSC 2002). The FMP (MAFMC 2000) sets a bycatch limit target of 5% which is almost exclusively otter trawl catches. As such, the harvest of tilefish is only slightly associated with impacts on habitat, including EFH, and this is expected to continue. As long as the directed fishery for tilefish is prosecuted with longline gear, and the retention of tilefish is a byproduct of the activity of the trawl fisheries, impacts on habitat will continue to be minimal but will always be analyzed under the actions for those fisheries. Impacts to tilefish EFH and EFH for other federally managed species are currently being thoroughly evaluated in Amendment 1 to this FMP that Dr. Montanez and his Fishery Management Action Team is developing and which is scheduled for completion in the spring of 2007.

Tilefish are restricted to the continental shelf break south of the Gulf of Maine (Steimle *et al. 1999).* They occupy a number of habitats, including scour basins around rocks or other rough bottom areas that form burrow-like cavities, and pueblo habitats in clay substrate. The dominant habitat type is a vertical burrow in a substrate of semi-hard silt-clay, 6 to 10 feet deep and 12 to 16 feet in diameter with a funnel shape. These burrows are excavated by tilefish, secondary burrows are created by other organisms, including lobsters, conger eels, and galatheid crabs. Tilefish are visual daytime feeders on galatheid crabs, mollusks, shrimps, polychaetes, and occasionally fish. Mollusks and echinoderms are more important to smaller tilefish. Little is known about juveniles of this species. A report to the Mid-Atlantic Fishery Management Council (Able and Museni 2002), based upon a review of archived video surveys in areas of tilefish habitat, did not find visual evidence of direct impacts to burrows due to otter trawls. The Northeast Region EFH Steering Committee Workshop (NEREFHSC 2002) concluded that there was the potential for a high degree of impact to the physical structure of hard clay outcroppings (pueblo village habitat) by trawls that would result in permanent change to a major physical feature which provides shelter for tilefish as well as their benthic prey. Although Able and Muzeni's (2002) review did not offer any evidence of this type of negative effect, their sample size for this habitat type was very small. Due to the tilefish's reliance on structured shelter and benthic prey, as well as the benthic prey's reliance on much of the same habitat, and the need for further study, the vulnerability of tilefish EFH to otter trawls was ranked as high (Stevenson *et al.* 2004). Clam dredges operate in shallow, sandy waters typically uninhabited by tilefish (Wallace and Hoff 2005), so EFH vulnerability was rated as none for this gear. Scallop vessel monitoring data indicate that scallop dredges operate to a small extent in areas overlapping tilefish EFH; therefore, EFH vulnerability to scallop dredges was ranked as low (Stevenson *et al.* 2004). Tilefish eggs and larvae are pelagic: therefore, EFH vulnerability is not applicable.

6.4 Endangered and Protected Species

There are numerous species which inhabit the environment within the management unit of this FMP that are afforded protection under the Endangered Species Act (ESA) of 1973 (i.e., for those designated as threatened or endangered) and/or the Marine Mammal Protection Act of 1972 (MMPA). Sixteen are classified as endangered or threatened under the ESA, while the rest are protected by the provisions of the MMPA. A subset of these species that may interact (via anecdotal evidence) with the tilefish fishery is provided in this document section. The Council has determined that the following list of species protected either by the Endangered Species Act of 1973 (ESA), the Marine Mammal Protection Act of 1972 (MMPA), or the Migratory Bird Act of 1918 may be found in the environment utilized by tilefish fishery:

Cetaceans

Species	Status
Northern right whale (*Eubalaena glacialis*)	Endangered
Humpback whale (*Megaptera novaeangliae*)	Endangered
Fin whale (*Balaenoptera physalus*)	Endangered
Blue whale (*Balaenoptera musculus*)	Endangered
Sei whale (*Balaenoptera borealis*)	Endangered
Sperm whale (*Physeter macrocephalus)*	Endangered
Minke whale (*Balaenoptera acutorostrata*)	Protected
Beaked whales (*Ziphius and Mesoplodon spp*.)	Protected
Risso's dolphin (*Grampus griseus*)	Protected
Pilot whale (*Globicephala spp*.)	Protected
White-sided dolphin (*Lagenorhynchus acutus*)	Protected
Common dolphin (*Delphinus delphis*)	Protected
Spotted and striped dolphins (*Stenella spp*.)	Protected
Bottlenose dolphin (*Tursiops truncatus*)	Protected

Sea Turtles

Species	Status
Leatherback sea turtle (*Dermochelys coriacea*)	Endangered
Kemp's ridley sea turtle (*Lepidochelys kempii*)	Endangered
Green sea turtle (*Chelonia mydas*)	Endangered
Hawksbill sea turtle (*Eretmochelys imbricata*)	Endangered
Loggerhead sea turtle (*Caretta caretta*)	Threatened

Fish

Species	Status
Shortnose sturgeon (*Acipenser brevirostrum*)	Endangered
Atlantic salmon (*Salmo salar*)	Endangered
Smalltooth sawfish (*Pristis pectinata*)	Endangered

Birds

Species	Status
Roseate tern (*Sterna dougallii dougallii*)	Endangered
Piping plover (*Charadrius melodus*)	Endangered

Critical Habitat Designations

Species	Area
Right whale	Cape Cod Bay
	Great Sound Channel

Under section 118 of the MMPA, the NMFS must publish and annually update the List of Fisheries (LOF), which places all US commercial fisheries in one of three categories based on the level of incidental serious injury and mortality of marine mammals in each fishery (arranging them according to a two tiered classification system). The categorization of a fishery in the LOF determines whether participants in that fishery may be required to comply with certain provisions of the MMPA, such as registration, observer coverage, and take reduction plan requirements. The classification criteria consists of a two tiered, stock-specific approach that first addresses the total impact of all fisheries on each marine mammal stock (Tier 1) and then addresses the impact of the individual fisheries on each stock (Tier 2). If the total annual mortality and serious injury of all fisheries that interact with a stock is less than 10% of the Potential Biological Removal (PBR) for the stock then the stock is designated as Tier 1 and all fisheries interacting with this stock would be placed in Category III. Otherwise, these fisheries are subject to categorization under Tier 2. PBR is the product of minimum population size, one-half the maximum productivity rate, and a “recovery” factor (MMPA Sec. 3. 16 U.S.C. 1362; Wade and Angliss 1997).

Under Tier 2, individual fisheries are subject to the following categorization:

Category I. Annual mortality and serious injury of a stock in a given fishery is greater than or equal to 50% of the PBR level;

Category II. Annual mortality and serious injury of a stock in a given fishery is greater than one percent and less than 50% of the PBR level; or

Category III. Annual mortality and serious injury of a stock in a given fishery is less than one percent of the PBR level.

In Category I, there is documented information indicating a "frequent" incidental mortality and injury of marine mammals in the fishery. In Category II, there is documented information indicating an "occasional" incidental mortality and injury of marine mammals in the fishery. In Category III, there is information indicating no more than a "remote likelihood" of an incidental taking of a marine mammal in the fishery or, in the absence of information indicating the

frequency of incidental taking of marine mammals, other factors such as fishing techniques, gear used, methods used to deter marine mammals, target species, seasons and areas fished, and species and distribution of marine mammals in the area suggest there is no more than a remote likelihood of an incidental take in the fishery. "Remote likelihood" means that it is highly unlikely that any marine mammal will be incidentally taken by a randomly selected vessel in the fishery during a 20-day period.

In the NOAA List of Fisheries, mid-Atlantic bottom longline/hook-and-line is currently classified as a Category III fishery. Tilefish have unique spatial and temporal behavior; their habitat is a relatively restricted band approximately 250 to 1200 feet deep and 46 - 64 ° F referred to as the "warm belt" on the outer continental shelf and upper slope of the United States Atlantic coast. Although tilefish are found along the entire United States Atlantic coast and the Gulf of Mexico, the FMP is concerned only with the stock of tilefish inhabiting the area north of the Virginia/North Carolina border. Because of their restricted habitat and low biomass, the fishery for tilefish, in recent years, has occurred in a relatively small area in the mid-Atlantic Bight, south of New England and west of New Jersey. The traditional fishery has occurred as far south as Virginia. Longline vessels targeting tilefish occur mainly in southern New England and Mid-Atlantic using bottom longline gear. There have been no interactions documented between this fishery and species/stocks of marine mammals and, thus, the fishery is currently classified as a Category III fishery. The 5% of the tilefish TAL that is allotted to the incidental trawl fishery may be taken inadvertently with endangered and protected resources. The impacts of those interactions with the trawl fisheries are described in the EISs for those specific fisheries

The status of the species listed above and other marine mammal populations inhabiting the Northwest Atlantic has been discussed in detail in the U.S. Atlantic and Gulf of Mexico Marine Mammal Stock Assessments. Initial assessments were presented in Blaylock *et al.* (1995) and are updated in Waring *et al.* (2002). The most recent information on the stock assessment of various marine mammals (cetaceans: whales, dolphins, and porpoises; and pinnipeds: seals, sea lions, and walruses) can be found at: http://www.nmfs.noaa.gov/pr/sars/species.htm. Information about marine turtles can be found at: http://www.nmfs.noaa.gov/pr/species/turtles/.

Two other useful websites on marine mammals are:
http://www.nmfs.noaa.gov/pr/species/mammals/
http://spo.nwr.noaa.gov/mfr611/mfr611.htm

Fishery Interactions

Observer field operations on tilefish vessels for years 1995, 1997-2000, and 2002-2005 (NMFS observer program), indicate that only in the last two years (2004-2005) have any interactions occurred, when there were a total of 30 takes and all were seabirds (northern fulmer; unknown gulls; great black-back gull; herring gull; and greater shearwater) but none of the known sea bird takes are listed as endangered or threatened (Kelliher, pers. comm.). Observer field operations on tilefish vessels have not recorded interactions between tilefish vessels and endangered and/or protected species, however, it is important to note that observed coverage on tilefish vessels have been relatively low. Nevertheless, Ms. Laurie Nolan, a Council member and lifelong tilefish

fisher indicated that she has never known of any interaction between tilefish bottom longline gear and marine mammals, sea turtles, or any other endangered and/or threatened species (Nolan, pers. comm.).

6.5 Human Communities

6.5.1 Key Ports and Communities

The Council contracted with Dr. Bonnie McCay and her associates at Rutgers University to describe the ports and communities associated with the tilefish fisheries in Mid-Atlantic (MAFMC 2000). Dr. Patricia Clay is in the process of updating Dr. McCay's work for Amendment 1 to the FMP. Dr. Clay is the social scientist on the Fishery Management Action Team that is to complete their draft work for the public hearing document that is to be completed in the spring of 2007. All indications are that Dr. Clay's work will be similar to Dr. McCay's that was the basis of the FMP. Montauk, New York and Barnegat Light, New Jersey continue to be the ports with the vast amount of landings.

6.5.2 Economic Environment

The focus in this section is on participation, fleet characteristics, and economic trends in the fisheries.

Commercial Fishery

Access to the Commercial Fishery

With the implementation of the Tilefish FMP on November 1, 2001 (66 FR 49136; September 26, 2001), commercial fishing permits were required to participate in the fishery. There are four Federal permits that pertain to harvest of tilefish by commercial fishing vessels in accordance with 50 CFR §648.4. There are three limited access tilefish permits (full-time tier 1 category, full-time tier 2 category, part-time category) and an incidental catch permit category. Any U.S. fishing vessel fishing under a tilefish incidental catch category permit is prohibited from possessing more than the tilefish trip limit (currently 300 pounds) and is designed to achieve a target TAC of 5% of the total TAL.

NMFS vessel permit files indicate that there were 3 vessels permitted to participate in the tilefish fishery as full-time tier 1 vessels; 5 vessels as full-time tier 2 vessels; 20 as part-time vessels; and 2,256 vessels as incidental vessels. According to dealer data files, all permitted vessels in the full-time tier 1 category landed tilefish in 2005, while only 40 percent (2 vessels) of the permitted vessels in the full-time tier 2 category and 35 percent (8 vessels) of the permitted vessels in the part-time category landed tilefish that year. In addition, approximately 142 vessels landed tilefish under the incidental catch permit category in 2005. According to dealer data, the vast majority of the tilefish landings in 2005 (approximately 90%) came from vessels permitted to participate in the limited access fishery.

Fleet Characteristics

NMFS vessel permit files indicate that the vessels with tilefish limited access permits in 2005 were primarily home ported in Barnegat Light, New Jersey (12 vessels) and Montauk, New York (3 vessels), and other ports (including Eliot and Portland in ME; Sciatute, Boston, Gloucester, and New Bedford in MA; New York in NY; Philadelphia in PA; Newport, Providence, and Wakefield in RI). However, the top four vessels with the largest landings in 2005 (approximately 50% of the tilefish landed) were home ported in the port of Montauk, New York (NY). New York, New Jersey, and Rhode Island are the primary states where tilefish are landed commercially (Table 1). While a slight downward trend in landings is evident in New York in the last five years, landings have significantly decreased in Rhode Island and increased in New Jersey for the same period.

Tilefish vessels are usually of steel construction and range in length from 50 to 100 feet (MAFMC 2000). NMFS permit data for 2005 indicates that regardless of permit category held, the bulk of the permitted commercial tilefish vessels are located in New Jersey, followed by Massachusetts, and New York. These vessels range in size from less than 35 to 91 gross tons and between 49 and 76 feet in length. Crew size for these vessels ranges between 3 and 6.

Full-time tier 1 vessels are primarily home ported in New York. These vessels average 73 gross tons and 70 feet in length. The average crew size for these vessels is 5 (Table 10). According to NMFS dealer data files, full-time tier 1 vessels contributed with the bulk of the landings (60%) in 2005, followed by part-time vessels (18%) and full-time tier 2 vessels (12%).

Full-time tier-2 vessels are evenly distributed among the states. These vessels range in average size from 35 to 91 gross tons and are between 9 and 75 feet in length. Crew size for these vessels ranges between 2 and 6 (Table 10).

Part-time vessels are mostly concentrated in New Jersey and Massachusetts. These vessels range in average size from 57 to 64 feet in length and are between 60 and 88 gross tons. Crew size for these vessels ranges between 4 and 5 people (Table 10).

Except for full-time tier 2 vessels in New Jersey and part-time vessels in Rhode Island, a high percentage of commercial vessel owners list the same state as both the vessel owner's declared principal port of landing and their identified home port (Table 10).

Trends in Tilefish Revenues and Prices

Commercial tilefish ex-vessel revenues have ranged from $2.5 to $4.9 million for the 1996 to 2005 period (Table 11). Ex-vessel revenues have experienced a slight downward trend for the 1996 to 2005 period and they have closely matched trends in landings. The ex-vessel value of tilefish was over 3.3 million in 2005 and accounted for less than 0.4% of the total value of all finfish and shellfish species landed from Maine through Virginia. In 2005, New York had the highest landings value at approximately $2.7 million, followed by New Jersey ($0.6 million),

and Rhode Island (<$0.05 million). Maine, Massachusetts, Connecticut, Maryland, and Virginia had very low landings values (ranging from a few hundred dollars to $6,000; Table 12).

The mean price for tilefish (adjusted) has ranged from $1.10/lb in 1997 to $2.48/lb in 2005 (Table 11). On average, price fluctuations throughout the years are associated with supply responses, with higher prices generally corresponding to significant decreases in landings.

Total ex-vessel value by state shows the same trends as total commercial landings. In 2005, New York had the highest ex-vessel value at $2.7 million, with the highest mean price of $2.64/lb. Massachusetts fish brought the lowest price ($1.38/lb) in 2005 (Table 12).

Seasonally, the months with the highest landings (December through May) had the highest ex-vessel value for the 1996 to 2005 period, with a peak value of $4.6 million in March (Tables 3 and 13). Monthly ex-vessel value averaged $3.0 million (Table 13).

Market for Tilefish

Most tilefish are sold fresh. The bulk of the catch is gutted at sea and iced during long trips. Incidental catches are not gutted. When the catch arrives at the dock it is sorted, washed, weighted, boxed and iced in 60 pound cartoons. Tilefish are generally transported to the Fulton Market by truck. Tilefish is carried as a specialty item in the Fulton Market for mostly Korean customers. Tilefish supplies are very stable throughout the year as full-time tier 1 participants spread their landings through the fishing season to avoid market gluts. As previously stated, the bulk of the tilefish quota (66%) is allocated to these vessels. Nevertheless, a light supply increase is evident during the winter and spring months when part-time vessels tend to participate in the fishery and land their catch (Nolan pers. comm.).

7.0 ENVIRONMENTAL CONSEQUENCES – ANALYSIS OF DIRECT AND INDIRECT IMPACTS

7.1 Alternative 1 – (Mid-Atlantic Council Preferred Alternative)

Specify the commercial quota of 2.175 million pounds (987 mt) of live weight for the remainder of the stock rebuilding period (unless otherwise changed through a superseding action). The total quota will continue to be divided among two full time, one part time, and an incidental category as specified in the FMP. This is effectively the quota that was in effect between November 2001 and May 2005 (with the exception of when the quota was suspended due to a lawsuit). This 9% quota increase corresponds to the difference between calculating the quota in "live weight" versus "landed weight".

This alternative is consistent with the Tilefish Monitoring Committee's recommendations, the Surfclam/Ocean Quahog and Tilefish Committee's recommendation and the Council recommendation. Alternative 1 is expected to continue the stock recovery (Figures 1 and 2). Additionally, relative to the status quo, no impacts are expected on non-target species, habitat including EFH, or protected resources. The human community could have a small benefit by as much as 9% increase in revenue if a direct relationship between landings and price existed. Revenues are simply expected to return to what they were prior to May 2005 when the quota accounting was changed

7.1.1 Managed Resource Impacts of Alternative 1

In June 2005, a benchmark stock assessment was conducted at the 41st SARC (NEFSC 2005). The results of that stock assessment (Appendix 1) indicate that the golden tilefish stock is not overfished and overfishing is not occurring. Fishing mortality in 2004 was estimated to be 87% of the Fmsy level. Total biomass in 2005 was estimated to be 72% of the Bmsy level. The stock biomass in 2005 is above that projected for 2005 in the 1998 assessment (59% of Bmsy).

The resource is not yet rebuilt so the catch associated with the MSY level can not be taken yet. This "small" increase in the quota is justified by the difference between reporting landings in "live" versus "landed" weight and is consistent with the advice of the NEFSC tilefish stock assessment scientist to the Tilefish Monitoring Committee on April 24, 2006. The difference between the status quo alternative (Alternative 3) and this alternative can be viewed in Figures 1 and 5. If the quota is increased this year to 2.175 million pounds of live weight, and continued until 2011 (when the resource is to be rebuilt), then there is 50 percent probability (middle line) of reaching a B/Bmsy ratio of 1.39. However if the quota is maintained at 1.995 million pounds (status quo) until 2011, then there is a 50 percent probability of reaching a B/Bmsy ratio of 1.41. The uncertainty associated with these projections led both the Southern Demersal Working Group and the SARC that conducted the assessment to not be willing to make projections (Appendix 1). The 2.175 million pound quota is actually the quota that was in place between implementation of the plan in 2001 and May 2005 when the quota recording was corrected to reflect live weight. The resource is actually ahead of schedule in rebuilding (Appendix 1).

7.1.2 Non-target Species Impacts of Alternative 1

Impacts on species other than tilefish are also likely to be insignificant under Alternative 1 relative to status quo, since the tilefish longline fishery, which takes about 95% of the landings, is extremely clean. Please see section 6.2 and Tables 7 and 9. This small increase in quota will go almost exclusively to the longline fishery as the incidental fishery (mostly the otter trawls that inadvertently catch tilefish) has a trip limit of 300 pounds (5% of TAL) which will likely not change.

7.1.3 Habitat Impacts of Alternative 1

Tilefish are restricted to the continental shelf break south of the Gulf of Maine (Steimle *et al. 1999).* They occupy a number of habitats, including scour basins around rocks or other rough bottom areas that form burrow-like cavities, and pueblo habitats in clay substrate. The dominant habitat type is a vertical burrow in a substrate of semi-hard silt-clay, 6 to 10 feet deep and 12 to 16 feet in diameter with a funnel shape. These burrows are excavated by tilefish, secondary burrows are created by other organisms, including lobsters, conger eels, and galatheid crabs. Tilefish are visual daytime feeders on galatheid crabs, mollusks, shrimps, polychaetes, and occasionally fish. Mollusks and echinoderms are more important to smaller tilefish. Little is known about juveniles of this species. A report to the Mid-Atlantic Fishery Management Council (Able and Museni 2002), based upon a review of archived video surveys in areas of tilefish habitat, did not find visual evidence of direct impacts to burrows due to otter trawls. The Northeast Region EFH Steering Committee Workshop (NEREFHSC 2002) concluded that there was the potential for a high degree of impact to the physical structure of hard clay outcroppings (pueblo village habitat) by trawls that would result in permanent change to a major physical feature which provides shelter for tilefish as well as their benthic prey. Although Able and Muzeni's (2002) review did not offer any evidence of this type of negative effect, their sample size for this habitat type was very small. Due to the tilefish's reliance on structured shelter and benthic prey, as well as the benthic prey's reliance on much of the same habitat, and the need for further study, the vulnerability of tilefish EFH to otter trawls was ranked as high (Stevenson *et al.* 2004). Clam dredges operate in shallow, sandy waters typically uninhabited by tilefish (Wallace and Hoff 2005), so EFH vulnerability was rated as none for this gear. Scallop vessel monitoring data indicate that scallop dredges operate to a small extent in areas overlapping tilefish EFH; therefore, EFH vulnerability to scallop dredges was ranked as low (Stevenson *et al.* 2004). Tilefish eggs and larvae are pelagic: therefore, EFH vulnerability is not applicable.

Under Alternative 1, habitat impacts by commercial gear should not increase (relative to status quo) as the small increase in landings will occur almost exclusively with longline gear which only causes low impacts to some habitats (NEREFHSC 2002). Please see section 6.3. The otter trawl incidental fishery has a targeted quota of 5% of the total landings, but a trip limit of 300 pounds is imposed and that is not likely to change with this small quota increase Because no increase in the distribution or intensity of bottom otter trawl fishing effort is expected under Alternative 1, its implementation should not increase trawl impacts to habitat, including EFH.

7.1.4 Impacts on Endangered Species and Other Protected Resources of Alternative 1

Longline vessels receive 95% of the quota. There have been no interactions documented between this fishery and species/stocks of marine mammals or sea turtles. This longline fishery is currently classified as a Category III fishery by the Agency. Please see section 6.4 for a discussion of protected and threatened resources. This small quota increase (relative to status quo) should not result in any increase in otter trawl effort as tilefish are limited to landings of 300 pounds which are incidental to other directed fisheries.

7.1.5 Human Community Impacts of Alternative 1

This small quota increase (relative to the status quo) could have a small benefit to the fishing industry as potentially as much as 9% more landings could occur. Industry has supported this quota increase, which is what they were really allowed to land between implementation of the plan in 2001 and May 2005 (except for when the quotas were lifted due to a lawsuit). In general, there is not a direct relationship between the amount of fish landed and the price, but if one did assume a direct relationship, then the 2005 price per pound of $2.48 would be worth an additional $446,400 for the additional 180,000 pounds. Socially this may benefit the human community as more dollars may be available to be spent.

7.2 Alternative 2 - (Intermediate quota)

Specify the commercial quota of 2.095 million pounds (950 mt) of live weight for the upcoming fishing year which is a 5% increase over the status quo. The total quota will continue to be divided among the four user categories as specified in the FMP. This intermediate quota is roughly half way between the difference of calculating the quota in "live" versus "landed" weight.

Alternative 2 is expected to continue the stock recovery (Figures 3 and 4). Additionally, relative to the status quo, no further impacts are expected on non-target species, habitat including EFH, or protected resources. This 5% quota increase corresponds to the difference between calculating the quota in "live weight" versus "landed weight".

7.2.1 Managed Resource Impacts of Alternative 2

In June 2005, a benchmark stock assessment was conducted at the 41st SARC (NEFSC 2005). The results of that stock assessment (Appendix 1) indicate that the golden tilefish stock is not overfished and overfishing is not occurring. Fishing mortality in 2004 was estimated to be 87% of the Fmsy level. Total biomass in 2005 was estimated to be 72% of the Bmsy level. The stock biomass in 2005 is above that projected for 2005 in the 1998 assessment (59% of Bmsy).

The resource is not yet rebuilt so the catch associated with the MSY level can not be taken yet. This intermediate quota is roughly half way between the difference of calculating the quota in "live" versus "landed" weight (Alternatives 1 and 3) and would still be consistent with the advice of the NEFSC tilefish scientist to the Tilefish Monitoring Committee on April 24, 2006 where he

defined a "small" quota increase as less than 10%. The difference between the status quo alternative (Alternative 3) and this alternative can be viewed in Figures 3 and 5. If the quota is increased this year to 2.075 million pounds of live weight, and continued until 2011, then there is 50 percent probability (middle line) of reaching a B/Bmsy ratio of 1.40. However if the quota is maintained at 1.995 million pounds until 2011, then there is a 50 percent probability of reaching a B/Bmsy ratio of 1.41. The uncertainty associated with these projections led both the Southern Demersal Working Group and the SARC that conducted the assessment to not be willing to make projections (Appendix 1). The 2.075 million pound quota should continue to rebuild the resource ahead of schedule.

7.2.2 Non-target Species Impacts of Alternative 2

Impacts on species other than tilefish are also likely to be insignificant under Alternative 2 relative to the status quo, since the tilefish longline fishery, which takes about 95% of the landings, is extremely clean. Please see section 6.2 and Tables 7 and 9. This small increase in quota will go almost exclusively to the longline fishery as the incidental fishery (mostly the otter trawls that inadvertently catch tilefish) has a trip limit of 300 pounds which will likely not change.

Alternative 2 represents minimal deviation from the status quo conditions. As such, changes in the distribution or intensity of fishing effort are not expected to occur if this alternative is implemented. Therefore, no significant impacts on non-target species are likely to result from Alternative 2, relative to the status quo.

7.2.3 Habitat Impacts of Alternative 2

Alternative 2 represents minimal deviation from the status quo conditions. As such, changes in the distribution or intensity of fishing effort are not expected to occur if this alternative is implemented. Therefore, no significant impacts on habitat, including EFH are likely to result from Alternative 2, relative to the status quo (section 6.3).

7.2.4 Protected Resources Impacts of Alternative 2

Alternative 2 represents minimal deviation from the status quo conditions. As such, changes in the distribution or intensity of fishing effort are not expected to occur if this alternative is implemented. Therefore, no significant impacts to endangered or protected resources are likely to result from Alternative 2, relative to the status quo (section 6.4).

7.2.5 Fishery and Socioeconomic Impacts of Alternative 2

This small quota increase (relative to the status quo) could have a small benefit to the fishing industry as potentially as much as 5% more landings could occur. Industry has supported a quota increase, but would like to have what they were really allowed to land between implementation of the plan in 2001 and May 2005 (except for when the quotas were lifted due to a lawsuit). In general, there is not a direct relationship between the amount of fish landed and

the price, but if one did assume a direct relationship, then the 2005 price per pound of $2.48 would be worth an additional $248,000 for the additional 100,000 pounds. The revenues would likely be less than they were prior to the quota accounting change in May 2005. Socially, this may benefit the human community as more dollars are available to be spent.

7.3 Alternative 3 - (No Action and Status Quo Alternative)

Specify the commercial quota of 1.995 million pounds of live weight for the upcoming fishing year. The total quota will continue to be divided among the four user categories as specified in the FMP. This status quo quota is a continuation of reporting landings as "live" weight which was initiated in May 2005.

Alternative 3 would maintain the status quo (since May 2005) quota for FY2006/2007. Implementation of Alternative 3 would be expected to maintain status quo conditions for rebuilding the resource and result in no changes to the non-target species, habitat including EFH, protected resources or the human environment in FY2006/2007 compared to the current condition. Industry however would lose as much as 9% additional landings that the Tilefish Monitoring Committee and the Council believe could be landed without stress to the resource. Tilefish are currently not overfished and overfishing is not occurring. It is anticipated that the Regional Administrator will continue the 300 pound trip limits for the incidental category unless they are projected to land more than 5% of the quota within a fishing year. Any of these quotas are likely to remain in effect until another "benchmark" assessment occurs or they could be changed during the Amendment 1 process that is ongoing.

7.4 Cumulative Impacts

7.4.1 Introduction; Definition of Cumulative Effects

This section analyzes and discusses the significance of the cumulative impacts of the proposed alternatives. Cumulative impacts are defined under NEPA as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other action” (40 CFR § 1508.7). Consistent with NEPA, the MSFCMA, as currently amended by the SFA, requires that management actions be taken only after consideration of impacts to the biological, physical, economic, and social dimensions of the human environment. Additionally, the SFA promotes long-term positive impacts on the environment through enumerated management criteria in the National Standards. To the degree to which this regulatory regime is complied with, the cumulative impacts of past, present, and future Federal fishery management actions on the tilefish stock should generally be positive. This specifications package serves to analyze and discuss the significance to the human environment of impacts that may result from the various Federal management measures proposed herein. Consideration is given to the relative probability that each alternative will achieve the management objectives of the FMP through biological/ecological, socioeconomic, and legal review by experts on Council staff and NMFS. Section 6 provides a brief summary of past impacts. In addition, this Cumulative Impacts Section specifically considers the proposed

management alternatives in the context of the cumulative impacts of past, present and reasonably foreseeable future actions. The major possible source of reasonably foreseeable future actions that could impact the tilefish fishery is Amendment 1 which is being developed currently and should be drafted for public hearings in the spring of 2007. The analysis is generally qualitative in nature because of the limitations of determining effects over the large geographic areas under consideration.

Temporal and Geographic Scope of the Cumulative Impacts Analysis In terms of past actions for fisheries, habitat and socioeconomic impacts, the temporal scope of this analysis is primarily focused on actions that have taken place since 2001, when the tilefish commercial fishery north of the Virginia-North Carolina border began to be managed. For endangered and other protected species, the context is largely focused on the 1980s and 1990s, when NMFS began generating stock assessments for marine mammals and turtles that inhabit waters of the U.S. EEZ. In terms of future actions, the analysis considers the period between the effective date for these specifications (November 1, 2006) and the year by which the stock is currently expected to be fully recovered (2011), unless Amendment 1 (public hearing draft projected for spring 2007) alters the management measures significantly

The geographic scope of the analysis of impacts to fish species and habitat for this action is the range of the fisheries in the Western Atlantic Ocean, as described in the Affected Environment and Environmental Consequences sections of the document. For endangered and protected species the geographic range is the total range of each species. The geographic range for socioeconomic impacts is defined as those fishing communities bordering the range of the commercial tilefish fishery from the U.S.-Canada border to the Virginia-North Carolina border.

Non-Fishing Activities Cumulative impacts from non-fishing activities such as pollution, loss of coastal wetlands, marine transportation, and marine mining pose a limited risk to the tilefish resource because most of man's activities occur on land or in the estuaries and tilefish is an animal that lives at the edge of the Continental Shelf. As indicated in section 6.3 EFH for juvenile and adult tilefish is restricted to depths between the 250 and 1200 foot isobath where water temperatures range from 46 to 64 degrees F. Any manmade non-fishing activity impacts are most likely to occur indirectly through habitat degradation. A habitat area of particular concern (HAPC) has been identified for tilefish as the subset of EFH between 250 and 1200 foot isobath within statistical areas 616 and 537. Activities of concern may include chemical pollutants, sewage, changes in water temperature, salinity and dissolved oxygen, suspended sediment and activities that involve the disposal of dredged material. Non-fishing activities of man generally tend to be concentrated in nearshore areas. Wherever these activities co-occur, they are likely to work synergistically to decrease habitat quality and may indirectly constrain population recovery. The degree, to which this is occurring currently, while perceived as minimal, is unknown and/or unquantifiable. There are no new known studies that would change the conclusions of the implementing FMP.

7.4.2 Target Fishery Impacts

In June 2005, a benchmark stock assessment was conducted at the 41st SARC (NEFSC 2005). The results of that stock assessment (Appendix 1) indicate that the golden tilefish stock is not overfished and overfishing is not occurring. Fishing mortality in 2004 was estimated to be 87% of the Fmsy level. Total biomass in 2005 was estimated to be 72% of the Bmsy level. The stock biomass in 2005 is above that projected for 2005 in the 1998 assessment (59% of Bmsy). Even with this proposed small (9%) increase in quota the rebuilding projections (Figure 1) indicate that the tilefish biomass will be 1.39 times the biomass that would support the maximum sustainable yield level in 2011 when the resource is to be fully rebuilt. The additive effects of past management actions taken through the FMP and those that will be implemented with Amendment 1 will have directly benefited the tilefish stock. This effect is expected to continue as the stock further recovers. When considering the past, present, and reasonably foreseeable future actions that impact "the target fishery", including fishing and non-fishing activity as described above, the incremental impact of the proposed action is not significant. Thus, there are no significant cumulative impacts on the targeted species as a result of the proposed action.

7.4.3 Non-target Species Impacts

The establishment of the Federal Tilefish FMP (2001), which reduced effort significantly as landings were cut in half for the tilefish fishery in Federal waters, is associated with positive indirect impacts on non-target species. The bottom longline gear which harvests about 95% of the annual quota is extremely clean relative to bycatch (Tables 7 and 9). At present, participants in other fisheries that land tilefish incidentally, must obtain a Federal permit that will allow them to retain and sell small amounts of incidentally captured tilefish. The current bycatch allowance is 300 pounds per trip. There are no known plans to investigate methods to decrease tilefish bycatch in other fisheries. As such, positive indirect impacts on non-target species as a result of tilefish harvest policy (which the FMP constrained significantly) are expected to continue for several years. When considering the past, present, and reasonably foreseeable future actions that impact "the non-target fishery", including fishing and non-fishing activity as described above, the incremental impact of the proposed action is not significant. Thus, there are no significant cumulative impacts on the non-targeted species as a result of the proposed action.

7.4.4 Endangered and Other Protected Species Impacts

The establishment of the Federal Tilefish FMP, which reduced effort significantly as landings were cut in half for the tilefish fishery in Federal waters, is associated with positive indirect impacts on endangered and other protected species. Longline vessels receive 95% of the quota. There have been no interactions documented between this fishery and species/stocks of marine mammals. This longline fishery is currently classified as a Category III fishery by NMFS. Please see section 6.4 for a discussion of protected and threatened resources. This small quota increase should not result in any increase in otter trawl effort as tilefish are limited to landings of 300 pounds which are incidental to other directed fisheries. As such, positive indirect impacts on endangered and other protected species as a result of tilefish harvest policy are expected to

continue. When considering the past, present, and reasonably foreseeable future actions that impact "protected resources", including fishing and non-fishing activity as described above, the incremental impact of the proposed action is not significant. Thus, there are no significant cumulative impacts on the protected resources as a result of the proposed action.

7.4.5 Habitat Impacts

Commercial gear types historically used to harvest tilefish include bottom longlines and bottom otter trawls. Of these two gear types, the bottom otter trawl is the most likely to be associated with adverse impacts to habitat since it is a bottom-tending mobile gear. The primary impact associated with this type of gear is reduction of bottom habitat complexity (Auster and Langton, 1999). Prior to the implementation of the Federal Tilefish FMP, bottom otter trawls were unrestricted, harvesting as much as 16% of the annual landings in 2004 when the regulations were lifted because of a lawsuit (Table 4). More importantly, as stated throughout this document, the incidental tilefish fishery (otter trawls) has effectively been restricted to 5% of the quota in Federal waters since FY2001/2002. As such, it is unlikely that the current distribution and intensity of bottom otter trawl effort is significantly influenced by the small bycatch allowance for tilefish. Therefore, positive indirect impacts by the tilefish fishery on habitat, including EFH is expected to continue for several more years. When considering the past, present, and reasonably foreseeable future actions that impact "habitat", including fishing and non-fishing activity as described above, the incremental impact of the proposed action is not significant. Thus, there are no significant cumulative impacts on the habitat as a result of the proposed action.

7.4.6 Fishery and Socioeconomic Impacts

As a result of the implementation of the tilefish FMP, indirect negative effects have been incurred by the socioeconomic sector of the environment through loss of revenue to fishermen and decreased revenue to wholesalers. These negative indirect effects are expected to be ameliorated as recovery of the tilefish stock continues. Under the proposed quota increase alternatives (Alternatives 1 and 2), the fishery could land either 9% or 5% more and therefore, revenues associated with tilefish harvest should increase in the near term relative to the status quo, disregarding changes in market value. Nevertheless, the maximum sustainable harvest level of the fishery is not expected to be reached until 2011.

7.4.7 Summary/Conclusions of the Environmental Assessment

The purpose of this action is to specify Federal tilefish management measures for fishing years 2006-2011 as authorized under the Tilefish FMP (MAFMC 2000) or until a new stock assessment is conducted. As required by the FMP, this action is needed to establish a commercial fishing quota after the recently (2005) completed stock assessment. There are no other management measures considered at this time for this specification package, but numerous issues are considered in Amendment 1 which is currently being developed by the Tilefish FMAT and which should be available for public hearings in early 2007.

In June 2005, a benchmark stock assessment was conducted at the 41st SARC (NEFSC 2005). The results of that stock assessment (Appendix 1) indicate that the golden tilefish stock is not overfished and overfishing is not occurring. Fishing mortality in 2004 was estimated to be 87% of the Fmsy level. Total biomass in 2005 was estimated to be 72% of the Bmsy level. The stock biomass in 2005 is above that projected for 2005 in the 1998 assessment (59% of Bmsy).

This most recent stock assessment information on tilefish was presented to the Councils' Tilefish Monitoring Committee (section 11 for membership) at its April 24, 2006 meeting. The Monitoring Committee reviewed the entire assessment and although they were concerned about: 1) the large amount of uncertainty, 2) the fact that the working group that produced the stock assessment and the SARC felt they could not make projections, 3) the fact that one strong year class (1999) is supporting the majority of the fishery, 4) the last strong year class (1993) that supported the fishery was fished out quickly, and 5) that there are few larger/older fish -- the Monitoring Committee still agreed with the NEFSC stock assessment tilefish biologist (Paul Nitschke). In Nitschke's presentation to the Monitoring Committee he concluded with three points: 1) "The current assessment model could be used to support a "SMALL" increase in the TAC, 2) "SMALL" to him is under 10%, and 3) If the current strong year class does not persist then the current model is incorrect and there will likely be a large shift in the estimated ASPIC model reference points."

An industry member, who is part of the Tilefish Monitoring Committee, and another industry member who a Council member, advocated at the April 24 meeting that there should be a 9% increase in the tilefish quota. Their rationale was that with the implementation of the FMP in November 2002, the quota was calculated in terms of "landed" weight of tilefish. There was initial confusion among the Council, the regional office, the science center, and the industry over the calculation of the quota and the monitoring of the quota. This confusion was somewhat a function of the very rapid completion of the FMP in only 9 months. The 1998 assessment was conducted with "live" weight and in May 2005 the Regional Office began monitoring the quota in terms of "live" weight. There is a 9% difference between the way the fish are landed (gutted only) and the live weight. Thus, industry believes they "lost" 9% of the quota in May 2005. Industry believes that a 9% quota increase, to recapture their former total landings, would not be detrimental to the stock.

Council staff presented the stock assessment and the conclusion from the Monitoring Committee to the Council's Surfclam/Ocean Quahog and Tilefish Committee at their meeting of May 3. The Council staff did not have a specific quota recommendation but concluded with the recommendations that the Committee should: 1) recognize the uncertainty throughout the assessment, 2) recognize that one year class is currently supporting the fishery, 3) recognize that the scientists involved with the assessment and the Monitoring Committee can not readily tell the difference between the 1.995 current million pound quota that is reported in live weight and the 2.175 million pound quota that corresponds to the previous landed weight quota, 4) recognize that the 2.175 million pound quota is the landings prior to May 2005 and the resource is likely rebuilding, 5) recognize the industry desire to recapture their previous landings, 6) solicit any additional advice from the regional office and the science center, and 7) make a policy call. This Committee (section 11 for membership) responded with a vote of five in favor and two

abstaining (Regional Office and Committee Vice Chair) of a 9% increase that corresponds to the difference between "live weight" and "landed weight".

Later on May 3rd the Surfclam/Ocean Quahog and Tilefish Committee reported to the Council and recommended the 9% increase. After considerable debate the entire Council passed the following motion: "On behalf of the Surfclam/Ocean Quahog and Tilefish Committee, I move that the Council recommend to NMFS that the TAC for tilefish be increased from 905 mt to 987 mt (live weight) beginning with the fishing year that starts on November 1, 2006." The vote was 14 in favor, two opposed, and the Regional Administrator and Laurie Nolan abstaining. The intent of this document is to justify this quota change from 1.995 million pounds (905 mt) to 2.175 million pounds (987 mt) of live weight to begin at the start of the 2006-2007 fishing year and to continue until the next tilefish stock assessment is completed.

The preferred Alternative 1, with its small increase in quota, should have minimal impact on the rebuilding of the resource (Figure 1) relative to the status quo (Figure 5). The 180,000 pound difference between Alternatives 1 and 3 is likely not to result in a detectable difference in fishing mortality or probability of rebuilding the biomass by 2011. There are no projected differences among the alternatives relative to impacts to non-target species, protected and threatened species or habitat, including EFH. There may be a small positive benefit to the fishing community as tilefish in 2005 averaged $2.48 per pound and thus if there was a direct relationship between weight landed and price, the benefit could be as much as $446,400 under Alternative 1 relative to Alternative 3.

The management actions implemented with the FMP have produced short and long term positive impacts to the tilefish stock, non-target species, essential fish habitat, and protected resources. Compared to the 1990s when the historical fishery was more active, negative short-term impacts to the socioeconomic sector have occurred, however, in the long term, recovery of the stock will benefit human communities through the establishment of a sustainable fishery. The Council hopes that with the preferred alternative and its associated small increase in quota that the human communities can begin to further benefit from the rebuilding of this important resource.

8.0 ESSENTIAL FISH HABITAT ASSESSMENT

The Tilefish FMP (MAFMC 2000) was developed by a Tilefish Technical Team composed of experts from the NEFSC, Regional Office of NMFS, and Council staff. Habitat personnel from the NERO were mainly responsible for drafting the original habitat section of the FMP.

The 1996 SFA significantly affected FMPs regarding habitat issues. The SFA contains provisions for the identification and protection of habitat essential to the production of federally managed species. The Act requires FMPs to include identification and description of essential fish habitat (EFH), description of non-fishing and fishing threats, and suggest conservation and enhancement measures. These new habitat requirements were addressed in the FMP.

EFH is identified as all offshore waters over the Continental Shelf and Slope with water depths from 250 to 1200 feet, from the United States/Canadian boundary to the Virginia/North Carolina boundary.

Also the area included as EFH in the statistical areas 537 and 616 is identified as Habitat Areas of Particular Concern (HAPC) since greater than 90% of the recent landings come from these areas (MAFMC 2000).

Based upon some available scientific information (MAFMC 2000), it was inferred for the purposes of the FMP public hearing document that trawling was causing long-term physical adverse impacts to tilefish EFH. It was further implied that in some cases those adverse impacts could have been severe, at least locally. The basis of this conclusion was drawn from previous studies which show that in deep water, soft-bottomed sediments where environmental conditions are relatively stable, the impacts of trawling have resulted in destruction of benthic communities and habitat structure that was slow to recover following the cessation of fishing activity.

During the public hearing process, the Council received significant input from both the directed tilefish fishing industry and other fishing industry representatives that bottom-tending mobile gear was not significantly having an identifiable adverse effect on tilefish EFH. The environmental community strongly supported the association that bottom tending mobile gear can destroy bottom structures and that since tilefish are significantly dependent on bottom structure for their burrows, bottom tending mobile gear should be banned in tilefish HAPC.

On September 30, 1999, the Tilefish Technical Team consisting of Council staff, a Council member, NMFS (both NERO and NEFSC) personnel, academics and industry representatives were hosted in a workshop by Dr. Ken Able of Rutgers University to discuss the impacts of fishing gear to tilefish habitat. It was concluded that there is nothing definitively known about tilefish-mobile fishing gear interactions. There is nothing specifically described about the sensitivity of tilefish burrows in the scientific literature. Unquestionably, from submersible vessel research, there are trawl door patterns observed in areas with tilefish burrows, but how much of an impact the doors have and how quickly tilefish can reopen their burrows, if sediment closed, is completely unknown at this time. It is fully recognized that tilefish are extremely important to maintaining the habitat around their burrows and this is important for the entire

demersal community around these burrows. The scientists and industry representatives at this meeting concluded that a research program to answer these questions was the appropriate approach to take.

The FMP was implemented by the Agency in the fall of 2001 without fishing gear restrictions in the HAPC or EFH.

On October 26, 2001, the Natural Resources Defense Council (NRDC) filed a complaint with the Southern District Court of New York alleging that the lack of any restrictions on bottom tending mobile gear fishing gear (e.g., otter trawl nets) in essential fish habitat for tilefish rendered the FMP and its implementing regulations arbitrary and capricious. A Federal Court order in NRDC v. Evans (March 31, 2003) upheld the agency action because there was no scientific evidence supporting the conclusion that bottom tending mobile fishing gear is having an identifiable adverse impact on tilefish essential fish habitat. Under the regulations in existence at the time the FMP was prepared, only an "identifiable" adverse effect on essential fish habitat from a fishing practice required consideration of measures to mitigate, minimize or prevent the impacts resulting from such fishing practice. The Judge concluded that plaintiffs' reliance on marks across parts of the ocean bottom caused by the fishing gear as evidence of an adverse impact was misplaced. While such marks may reflect a physical disruption of the bottom, there is no information according to the tilefish experts to demonstrate that this disruption had any effect to reduce the quality or quantity of tilefish essential fish habitat. Consequently, such physical disruption did not fit the definition of "adverse effect" in the regulations. In light of the absence of scientific information on the effects of fishing gear on tilefish essential fish habitat, the Judge found that the agency's analysis of the environmental impacts in the EIS was reasonable and a good faith presentation of the best information available under the circumstances.

During October 23-25, 2001, the Northeast Region Essential Fish Habitat Steering Committee convened a workshop on the effects of fishing gear on marine habitats off the northeastern United States (NEREFHSC 2002). This workshop panel of experts concluded that longlines (which land about 95% of the tilefish) cause some low degree impacts in mud, sand, and gravel habitats. Bottom trawls, which account for nearly all of the rest of the landings, and which are mostly incidental catches, had the greatest impacts which occur in low and high energy gravel habitats and in hard clay outcroppings.

This workshop further evolved and expanded into a NOAA Technical Memorandum entitled: *Characterization of the Fishing Practices and Marine Benthic Ecosystems of the Northeast U. S. Shelf, and an Evaluation of the Potential Effects of Fishing on Essential Fish Habitat* (Stevenson *et al.* 2004). This report concludes (Table 6.39) that tilefish are restricted to the continental shelf break south of the Gulf of Maine (Steimle *et al. 1999).* They occupy a number of habitats, including scour basins around rocks or other rough bottom areas that form burrow-like cavities, and pueblo habitats in clay substrate. The dominant habitat type is a vertical burrow in a substrate of semi-hard silt-clay, 6 to 10 feet deep and 12 to 16 feet in diameter with a funnel shape. These burrows are excavated by tilefish, secondary burrows are created by other organisms, including lobsters, conger eels, and galatheid crabs. Tilefish are visual daytime feeders on galatheid crabs, mollusks, shrimps, polychaetes, and occasionally fish. Mollusks and

echinoderms are more important to smaller tilefish. Little is known about juveniles of this species. A report to the Mid-Atlantic Fishery Management Council (Able and Museni 2002), based upon a review of archived video surveys in areas of tilefish habitat, did not find visual evidence of direct impacts to burrows due to otter trawls. The Northeast Region EFH Steering Committee Workshop (NEREFHSC 2002) concluded that there was the potential for a high degree of impact to the physical structure of hard clay outcroppings (pueblo village habitat) by trawls that would result in permanent change to a major physical feature which provides shelter for tilefish as well as their benthic prey. Although Able and Muzeni's (2002) review did not offer any evidence of this type of negative effect, their sample size for this habitat type was very small. Due to the tilefish's reliance on structured shelter and benthic prey, as well as the benthic prey's reliance on much of the same habitat, and the need for further study, the vulnerability of tilefish EFH to otter trawls was ranked as high (Stevenson *et al.* 2004). Clam dredges operate in shallow, sandy waters typically uninhabited by tilefish (Wallace and Hoff 2005), so EFH vulnerability was rated as none for this gear. Scallop vessel monitoring data indicate that scallop dredges operate to a small extent in areas overlapping tilefish EFH; therefore, EFH vulnerability to scallop dredges was ranked as low (Stevenson *et al.* 2004). Tilefish eggs and larvae are pelagic: therefore, EFH vulnerability is not applicable.

With tilefish EFH identified as all offshore waters over the Continental Shelf and Slope with water depths from 250 to 1200 feet, from the United States - Canadian boundary to the Virginia - North Carolina boundary, there is large overlap with the EFH for many other managed species.

The Tilefish Fishery Management Action Team (FMAT) is developing Amendment 1 currently for Council approval in the spring of 2007. A thorough evaluation of the most recent information and technical approaches is being pursued by the FMAT relative to gear impacts to tilefish habitat. Closure alternatives for specific areas will be considered as they were in the public hearing draft of the FMP.

When the FMP was implemented, landings were cut roughly in half, and thus the associated effort was also significantly reduced. Incidental catches (mostly otter trawl landings) were restricted to 5% of the quota. The resource is rebuilding and is no longer overfished and overfishing is currently not occurring. It is anticipated that the preferred quota alternative with its small increase in landings will not significantly impact on tilefish EFH or any other species EFH since longline gear capture nearly 95% of the quota.

9.0 APPLICABLE LAWS

9.1 NEPA

9.1.1 Finding of No Significant Environmental Impact (FONSI)

National Oceanic and Atmospheric Administration Administrative Order 216-6 (May 20, 1999) contains criteria for determining the significance of the impacts of a proposed action. In addition, the Council on Environmental Quality regulations at 40 C.F.R. '1508.27 state that the significance of an action should be analyzed both in terms of "context" and "intensity." Each criterion listed below is relevant to making a finding of no significant impact and has been considered individually, as well as in combination with the others. The significance of this action is analyzed based on the NAO 216-6 criteria and CEQ's context and intensity criteria. These include:

1) Can the proposed action reasonably be expected to jeopardize the sustainability of any target species that may be affected by the action?

The proposed action will continue to rebuild the tilefish biomass. The resource is now not overfished and overfishing is not occurring (Appendix 1) and this slight 9% quota increase will not jeopardize either of these stock determinations The proposed action is not expected to jeopardize the sustainability of tilefish that may be affected by the action (section 7.1.1)

2) Can the proposed action reasonably be expected to jeopardize the sustainability of any non-target species?

The proposed action is not expected to jeopardize the sustainability of any non-target species. The proposed measure is not expected to alter fishing methods or activities. The longline fishery which receives 95% of the quota is an extremely clean fishery (section 7.1.2).

3) Can the proposed action reasonably be expected to cause substantial damage to the ocean and coastal habitats and/or essential fish habitat as defined under the Magnuson-Stevens Act and identified in FMPs?

The proposed action is not expected to cause damage to the ocean, coastal habitats, and/or EFH as defined under the Magnuson-Stevens Act and identified in the FMP. In general, tilefish harvest is by bottom tending longline gear. As such, the harvest of tilefish is not directly associated with significant impacts on habitat, including EFH, and this is expected to continue for several more years. As long as longline fisheries continue to take the vast majority (95%) of tilefish landings the impacts will be minimal, but impacts on habitat will continue to be analyzed under the Amendment 1 to the management plan for this resource which is scheduled for completion of a public hearing document in the spring of 2007 (section 7.1.3).

4) Can the proposed action be reasonably expected to have a substantial adverse impact on public health or safety?

No changes in fishing behavior that would affect safety are anticipated. The overall effect of the proposed action will not impact adversely public health or safety. NMFS will consider comments received concerning safety and public health issues.

5) Can the proposed action reasonably be expected to adversely affect endangered or threatened species, marine mammals, or critical habitat of these species?

The proposed action is not reasonably expected to have an adverse impact on endangered or threatened species, marine mammals, or critical habitat for these species. As stated in section 7 of the EA, the activities to be conducted under the proposed action are within the scope of the FMP and do not change the basis for the determinations made in previous consultations. No significant increase or redistribution of effort is expected under this action (section 7.1.4).

6) Can the proposed action be expected to have a substantial impact on biodiversity and/or ecosystem function within the affected area (e.g., benthic productivity, predator-prey relationships, etc.)?

The proposed action is not expected to have a substantial impact on biodiversity and ecosystem function within the affected area. The action is not expected to alter fishing methods or activities or significantly increase fishing effort or the spatial and/or temporal distribution of current fishing effort.

7) Are significant social or economic impacts interrelated with natural or physical environmental effects?

The proposed action is not expected to have a substantial impact on the natural or physical environment. The proposed action is not expected to alter fishing methods or activities, and is not expected to significantly increase fishing effort or the spatial and/or temporal distribution of current fishing effort. Therefore, there are no social or economic impacts interrelated with significant natural or physical environmental effects (section 7.1.5).

8) Are the effects on the quality of the human environment likely to be highly controversial?

With the recent stock assessment concluding that tilefish are not overfished and overfishing is not occurring (Appendix 1), there was very little controversy over this small (9%) proposed increase in quota. The fishery has actually been landing more than this increase due to a lawsuit that eliminated the quota during 2003 and 2004. Thus, although there is some very minor controversy over the setting of tilefish specifications, the effects of this action are not expected to be highly controversial.

9) Can the proposed action reasonably be expected to result in substantial impacts to unique areas, such as historic or cultural resources, park land, prime farmlands, wetlands, wild and scenic rivers or ecologically critical areas?

This action merely revises the proposed annual commercial quota for tilefish. This fishery is not known to be prosecuted in any unique areas such as historical or cultural resources, park land, prime farmlands, wetlands, wild and scenic rivers or ecologically critical areas. Therefore, the proposed action is not expected to have a substantial impact on any of these areas.

10) Are the effects on the human environment likely to be highly uncertain or involve unique or unknown risks?

The impacts of the proposed action on the human environment are described in section 7 of the EA. The proposed action merely revises the annual commercial quota for the tilefish fishery. The proposed action is not expected to alter fishing methods or activities, and is not expected to significantly increase fishing effort or the spatial and/or temporal distribution of current fishing effort. The measures contained in this action are not expected to have highly uncertain, unique, or unknown risks on the human environment.

11) Is the proposed action related to other actions with individually insignificant, but cumulatively significant impacts?

As discussed in section 7.4, the proposed action is not expected to have individually insignificant, but cumulatively significant impacts. The synergistic interaction of improvements in the condition of the stock are expected to generate positive impacts overall. The proposed actions, together with past and future actions are not expected to result in significant cumulative impacts on the biological, physical, and human components of the environment.

12) Is the proposed action likely to adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural or historical resources?

The proposed action merely revises the annual commercial quota for the tilefish fishery. This fishery is not known to be prosecuted in any areas that might affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or cause the loss or destruction of significant scientific, cultural or historical resources. Therefore, the proposed action is not expected to affect on any of these areas.

13) Can the proposed action reasonably be expected to result in the introduction or spread of a nonindigenous species?

The proposed action merely revises the annual commercial quota for the tilefish fishery. There is no evidence or indication that this fishery has ever resulted in the introduction or spread of nonindigenous species. The proposed action is not expected to alter fishing methods or activities, and is not expected to significantly increase fishing effort or the spatial and/or temporal distribution of current fishing effort. Therefore, it is highly unlikely that the proposed action would be expected to result in the introduction or spread of a non-indigenous species.

14) Is the proposed action likely to establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration?

The proposed action merely revises the annual commercial quota for the tilefish fishery. The proposed action is not expected to alter fishing methods or activities, and is not expected to increase fishing effort or the spatial and/or temporal distribution of current fishing effort. When new stock assessment or other biological information about this species becomes available in the future, then the annual specifications may be adjusted according to the overfishing definitions contained in the FMP. The proposed action will not result in significant effects, nor does it represent a decision in principle about a future consideration.

15) Can the proposed action reasonably be expected to threaten a violation of Federal, State, or local law or requirements imposed for the protection of the environment?

The proposed action merely revises the annual commercial quota for the tilefish fishery. The proposed action is not expected to alter fishing methods or activities such that they threaten a violation of Federal, State, or local law or requirements imposed for the protection of the environment. In fact, the proposed action has been found to be consistent with other applicable laws (sections 9.2 - 9.10).

16) Can the proposed action reasonably be expected to result in cumulative adverse effects that could have a substantial effect on the target species or non-target species?

The impacts of the preferred alternatives on the biological, physical, and human environment are described in section 7. The cumulative effects of the proposed action on target and non-target species are detailed in section 7.4. The proposed action is not expected to significantly increase fishing effort or the spatial and/or temporal distribution of current fishing effort. The synergistic interaction of improvements in the condition of the stock through implementation of annual quotas is expected to generate positive impacts overall.

DETERMINATION

In view of the information presented in this document and the analysis contained in the supporting Environmental Assessment, it is hereby determined that the proposed actions in this specification package will not significantly impact the quality of the human environment as described above and in the Environmental Assessment. In addition, all beneficial and adverse impacts of the proposed action have been addressed to reach the conclusion of no significant impacts. Accordingly, preparation of an EIS for this action is not necessary.

_____ _____

Assistant Administrator for Fisheries, NOAA *Date*

9.2 Marine Mammal Protection Act

Sections 6.4 and 7.4 of the EA should be referenced for an assessment of the impacts of the proposed action on marine mammals. The action proposed in this document is not expected to alter fishing methods or activities. Therefore, this action is not expected to affect marine mammals or critical habitat in any manner not considered in previous consultations on the fisheries.

9.3 Endangered Species Act

Sections 6.4 and 7.4 of the EA should be referenced for an assessment of the impacts of the proposed action on endangered species and protected resources. The action proposed in this document is not expected to alter fishing methods or activities. Therefore, this action is not expected to affect endangered or threatened species or critical habitat in any manner not considered in previous consultations on the fisheries.

9.4 Coastal Zone Management Act

The Coastal Zone Management Act (CZMA) of 1972, as amended, provides measures for ensuring stability of productive fishery habitat while striving to balance development pressures with social, economic, cultural, and other impacts on the coastal zone. It is recognized that responsible management of both coastal zones and fish stocks must involve mutually supportive goals.

The Council must determine whether the FMP will affect a state's coastal zone. If it will, the FMP must be evaluated relative to the state's approved CZM program to determine whether it is consistent to the maximum extent practicable. The states have 60 days in which to agree or disagree with the Council's evaluation. If a state fails to respond within 60 days, the state's agreement may be presumed. If a state disagrees, the issue may be resolved through negotiation or, if that fails, by the Secretary.

The Council determined that the action in this framework document is consistent to the maximum extent practicable with the enforceable provisions of the approved coastal management programs as understood by the Council. This determination was submitted for review by the responsible state agencies on March 17, 2006, under section 307 of the Coastal Zone Management Act. Letters were sent to each of the following states within the management unit reviewing the consistency of the proposed action relative to each state’s Coastal Zone Management Program: Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, and North Carolina. To request a copy of the letter or a list of the CZM contacts within for each state, contact Daniel T. Furlong at the Mid-Atlantic Fishery Management Council, Room 2115 Federal Building, 300 South New Street, Dover, Delaware 19904-6790, Telephone: (302) 674-2331, Fax: (302) 674-5399.

9.5 Administrative Procedures Act

Sections 551-553 of the Federal Administrative Procedure Act establish procedural requirements applicable to informal rulemaking by Federal agencies. The purpose is to ensure public access to the Federal rulemaking process and to give the public notice and an opportunity to comment before the agency promulgates new regulations.

The Administrative Procedure Act requires solicitation and review of public comments on actions taken in the development of a fishery management plan and subsequent amendments and framework adjustments. Development of this specifications document provided many opportunities for public review, input, and access to the rulemaking process. This proposed specification document was developed as a result of a multi-stage process that involved review of the source document (2006 Specification package) by affected members of the public. The public had the opportunity to review and comment on management measures during the Tilefish Monitoring Committee Meeting held on April 24, 2006 and during the MAFMC meeting held on May 3, 2006 in Virginia Beach, VA. In addition, the public will have further opportunity to comment on this specification package once NMFS publishes a request for comments notice in the Federal Register (FR).

9.6 Data Quality Act

Utility of Information Product

The proposed document includes: A description of the proposed specification, description of the alternatives considered, and the reasons for selecting the proposed quota. This action proposes a commercial quota for tilefish in 2006/2007. This proposed specification document implements the FMP's conservation and management goals consistent with the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) as well as all other existing applicable laws.

This proposed specification document was developed as a result of a multi-stage process that involved review of the source document (2006 Specification package) by affected members of the public. The public had the opportunity to review and comment on management measures during the Tilefish Monitoring Committee Meeting held on April 24, 2006 in Providence, RI and during the MAFMC meeting held on May 3, 2006 in Virginia Beach, VA.

The Federal Register notice that announces the proposed rule and the implementing regulations will be made available in printed publication and on the website for the Northeast Regional Office. The notice provides metric conversions for all measurements.

Integrity of Information Product

The information product meets the standards for integrity under the following types of documents:

Other/Discussion (e.g., Confidentiality of Statistics of the Magnuson-Stevens Fishery Conservation and Management Act; NOAA Administrative Order 216-100, Protection of Confidential Fisheries Statistics; 50 CFR 229.11, Confidentiality of information collected under the Marine Mammal Protection Act.)

Objectivity of Information Product

The category of information product that applies for this product is "Natural Resource Plans."

In preparing specifications documents, the Council must comply with the requirements of the Magnuson-Stevens Act, the National Environmental Policy Act, the Regulatory Flexibility Act, the Administrative Procedure Act, the Paperwork Reduction Act, the Coastal Zone Management Act, the Endangered Species Act, the Marine Mammal Protection Act, the Data Quality Act, and Executive Orders 12630 (Property Rights), 12866 (Regulatory Planning), 13132 (Federalism), and 13158 (Marine Protected Areas).

This specification document has been developed to comply with all applicable National Standards, including National Standard 2. National Standard 2 states that the FMP's conservation and management measures shall be based upon the best scientific information available. Despite current data limitations, the conservation and management measures proposed to be implemented under this specifications document are based upon the best scientific information available. This information includes NMFS dealer weighout data for 2005, which was used to characterize the economic impacts of the management proposals. These data, as well as the NMFS Observer program database, were used to characterize historical landings, species co-occurrence in the tilefish catch, and discarding. The specialists who worked with these data are familiar with the most recent analytical techniques and with the available data and information relevant to the tilefish fishery. Marine Recreational Fisheries Statistical Survey (MRFSS) data were used to characterize the recreational fishery for this species.

The policy choices (i.e., quota) proposed to be implemented by this specification document is supported by the available scientific information. The quota contained in the specification document is designed to meet the conservation goals and objectives of the FMP, and prevent overfishing and rebuild overfished resources, while maintaining sustainable levels of fishing effort to ensure a minimal impact on fishing communities.

The supporting materials and analyses used to develop the quota in the proposed rule are contained in the specification document and to some degree in the FMP as specified in this document.

The review process for this specification package involves the Mid-Atlantic Fishery Management Council, the Northeast Fisheries Science Center, the Northeast Regional Office, and NOAA Fisheries Headquarters. The Center's technical review is conducted by senior level scientists with specialties in population dynamics, stock assessment methods, demersal resources, population biology, and the social sciences. The Council review process involves

public meetings at which affected stakeholders have opportunity to provide comments on the specification document. Review by staff at the Regional Office is conducted by those with expertise in fisheries management and policy, habitat conservation, protected species, and compliance with the applicable law. Final approval of the specifications document and clearance of the rule is conducted by staff at NOAA Fisheries Headquarters, the Department of Commerce, and the U.S. Office of Management and Budget.

9.7 Paperwork Reduction Act

The Paperwork Reduction Act (PRA) concerns the collection of information. The intent of the PRA is to minimize the Federal paperwork burden for individuals, small businesses, state and local governments, and other persons as well as to maximize the usefulness of information collected by the Federal government. There are no changes to the existing reporting requirements previously approved under this FMP for vessel permits, dealer reporting, or vessel logbooks. This action does not contain a collection-of-information requirement for purposes of the Paperwork Reduction Act.

9.8 Impacts Relative to Federalism/E.O. 13132

This specification document does not contain policies with Federalism implications sufficient to warrant preparation of a Federalism assessment under Executive Order (EO) 13132.

9.9 Environmental Justice/E.O. 12898

This EO provides that "each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations." EO 12898 directs each Federal agency to analyze the environmental effects, including human health, economic, and social effects of Federal actions on minority populations, low-income populations, and Indian tribes, when such analysis is required by NEPA. Agencies are further directed to "identify potential effects and mitigation measures in consultation with affected communities, and improve the accessibility of meetings, crucial documents, and notices."

The proposed action is not expected to affect participation in the tilefish fishery. Since the proposed action represents no changes relative to the current level of participation in this fishery, no negative economic or social effects are anticipated as a result (section 7). Therefore, the proposed action under the preferred alternative is not expected to cause disproportionately high and adverse human health, environmental or economic effects on minority populations, low-income populations, or Indian tribes.

9.10 Regulatory Flexibility Act/E.O. 12866

9.10.1 Regulatory Impact Review and Initial Regulatory Flexibility Analysis (IRFA)

This section provides the analysis and conclusions to address the requirements of Executive Order 12866 and the Regulatory Flexibility Act (RFA). Since many of the requirements of these mandates duplicate those required under the Magnuson-Stevens Act and NEPA, this section contains references to other sections of this document. The following sections provide the basis for concluding that the proposed action is not significant under E.O. 12866 and will not have a significant economic impact on a substantial number of small entities under the RFA.

9.10.2 Description of Management Objectives

The goals and objectives of the management plan for the tilefish resource are stated in section 1.1.3 of the Tilefish FMP. The proposed action is consistent with, and does not modify those goals and objectives.

9.10.3 Description of the Fishery

Section 2.3 of the Tilefish FMP contains a detailed description of the historical tilefish fishery. Updated fishery activity is given in section 6.5 of this document.

9.10.4 Statement of the Problem

The purpose and need for this action is identified in section 4.1 of this document. The Tilefish FMP requires that the Council and the Regional Administrator review the best available stock and fishery data when developing quota specification.

9.10.5 Description of the Alternatives

Alternative 1 – (Mid-Atlantic Council Preferred Alternative)
Specify the commercial quota of 2.175 million pounds (987 mt) of live weight. The total quota will continue to be divided among two full time, one part time, and an incidental category as specified in the FMP. This is effectively the quota that was in effect between November 2001 and May 2005 (with the exception of when the quota was suspended due to a lawsuit). This 9% quota increase corresponds to the difference between calculating the quota in "live weight" versus "landed weight".

This alternative is consistent with the Tilefish Monitoring Committee's recommendations, the Surfclam/Ocean Quahog and Tilefish Committee's recommendation and the Council recommendation. Alternative 1 is expected to continue the stock recovery (Figures 1 and 2). Additionally, relative to the status quo, no impacts are expected on non-target species, habitat including EFH, or protected resources. The human community could have a small benefit by as much as 9% increase in revenue if a direct relationship between landings and price existed. Revenues are simply expected to return to what they were prior to May 2005 when the quota accounting was changed

Alternative 2 – (Intermediate quota)
Specify the commercial quota of 2.095 million pounds (950 mt) of live weight which is a 5% increase over the status quo. The total quota will continue to be divided among the four user categories as specified in the FMP. This intermediate quota is roughly half way between the difference of calculating the quota in "live" versus "landed" weight.

Alternative 2 is expected to continue the stock recovery (Figures 3 and 4). Additionally, relative to the status quo, no impacts are expected on non-target species, habitat including EFH, or protected resources. The human community could have a small benefit by as much as 5% increase in revenue if a direct relationship between landings and price existed. The revenues would likely be less than they were prior to the quota accounting change in May 2005

Alternative 3 – (No Action and Status Quo)
Specify the commercial quota of 1.995 million pounds (905 mt) of live weight. The total quota will continue to be divided among the four user categories as specified in the FMP. This status quo quota is a continuation of reporting landings as "live" weight which was initiated in May 2005.

Alternative 3 would maintain the status quo (since May 2005) quota for FY2006/2007. Implementation of Alternative 3 would be expected to maintain status quo conditions for rebuilding the resource and result in no changes to the non-target species, habitat including EFH, protected resources or the human environment in FY2006/2007 compared to the current condition

9.10.6 Economic Analysis

The economic impacts of the proposed actions are discussed in section 7 of this document. In general, no significant economic impacts are expected because the proposed actions that are consistent with the goals of the FMP (Alternatives 1 and 2) are unlikely to result in significant deviation from the status quo.

9.10.7 Determination of Significance under E.O. 12866

NMFS Guidelines provide criteria to be used to evaluate whether a proposed action is significant. A significant regulatory action means any regulatory action that is likely to result in a rule that may:

1. *Have an annual effect on the economy of $100 million or more, or adversely effect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local or tribal governments or communities.*

The proposed action will not have an effect on the economy in excess of $100 million. The proposed action is not expected to have any adverse impacts on the economy, a sector of the

economy, productivity, competition, jobs, the environment, public health or safety, or state, local or tribal governments or communities.

2. *Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency.*

The proposed action will not create a serious inconsistency with or otherwise interfere with an action taken or planned by another agency. No other agency has indicated that it plans an action that will affect the spiny dogfish fishery in the EEZ.

3. *Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof.*

The proposed action will not materially alter the budgetary impact of entitlements, grants, user fees or loan programs, or the rights and obligations of their participants.

4. *Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order.*

The proposed action does not raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in E.O. 12866.

9.10.8 Initial Regulatory Flexibility Analysis

The following sections contain analyses of the effect of the proposed action on small entities. Under section 603(b) of the RFA, each initial regulatory flexibility analysis is required to address:

1. Reasons why the agency is considering the action,
2. The objectives and legal basis for the proposed rule,
3. The kind and number of small entities to which the proposed rule will apply,
4. The projected reporting, record-keeping and other compliance requirements of the proposed rule, and
5. All Federal rules that may duplicate, overlap, or conflict with the proposed rule.

9.10.9 Reasons for Considering the Action

The purpose and need for this action is identified in section 4.1 of this document. The Tilefish FMP requires that the Council and the Regional Administrator review the best available stock and fishery data when developing quota specifications.

9.10.10 Objectives and Legal Basis for the Action

The objective of the proposed action is to implement quota specifications for the tilefish fishery, as required under the regulations implementing the Tilefish FMP, which are provided in 50 CFR 648.

9.10.11 Description and Number of Small Entities to Which the Rule Applies

All of the potentially affected businesses are considered small entities under the standards described in NOAA Fisheries guidelines because they have gross receipts that do not exceed $3.5 million annually. A discussion of vessel activity during the 2005 fishing year is given in section 6.5.1 of this document.

9.10.12 Recordkeeping and Reporting Requirements

The proposed action does not introduce any new reporting, recordkeeping, or other compliance requirements.

9.10.13 Duplication, Overlap, or Conflict with Other Federal Rules

The proposed action does not duplicate, overlap or conflict with any other Federal rules.

9.10.14 Economic Impacts on Small Entities

Section 7.0 of this document contains the economic analysis of the alternatives that were considered during the specification process.

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11.0 LIST OF AGENCIES AND PERSONS CONSULTED

This document was prepared by the Mid-Atlantic Fishery Management Council in consultation with the National Marine Fisheries Service.

Members of the Tilefish Monitoring Committee include:

Dr. Thomas B. Hoff, MAFMC Staff (Monitoring Committee Chair)
Mr. Paul Nitschke, NEFSC Population Dynamics Branch
Mr. Brian Hooker, NMFS NERO
Mr. Jeff Brust, New Jersey Division of Fish, Game and Wildlife
Mr. Steve Heins, New York State Department of Environmental Conservation
Mr. Dan Farnham, tilefish fishermen, New York

Members of the Surfclam/Ocean Quahog and Tilefish Committee include:

Mr. Gordon Colvin (NY)
Ms Laurie Nolan (NY)
Mr. Pete Jensen (MD)
Ms. Michelle Peabody (VA)
Ms. Frances Puskas (NJ)
Mr. Larry Simms (MD)
Mr. Paul Scarlett (NJ)

In addition to Dr. Hoff, MAFMC staff members Dr. Jose Montanez and Ms. Kathy Collins contributed significantly to this document.

In addition, the following organizations/agencies were consulted during the development of the tilefish specifications, either through direct communication/correspondence and/or participation in Council public meetings:

NOAA Fisheries, National Marine Fisheries Service, Northeast Regional Office, Gloucester MA and Northeast Fisheries Science Center, Woods Hole MA, and NMFS Headquarters, Silver Spring, MD.

Letters were also sent to the potentially-affected states for the purposes of reviewing the consistency of the proposed action relative to each state's Coastal Zone Management Program (section 9.4 of this document for a list of states that were contacted).

For questions regarding this document, please contact Mr. Dan Furlong, Executive Director, Mid-Atlantic Fishery Management Council, Room 2115 Federal Building, Dover, DE 19904. (302) 674-2331.

Table 1. Tilefish commercial landings (in '000 lb live weight) from Maine through Virginia, 1990-2005.

Year	ME	NH	MA	RI	CT	NY	NJ	DE	MD	VA	Total	Percent
1990	16	-	16	42	2	1,335	512	-	4	*	1,927	5.2%
1991	9	-	2	41	1	1,588	978	-	2	*	2,621	7.0%
1992	18	*	6	322	6	2,124	1,168	-	-	*	3,644	9.8%
1993	129	*	32	609	10	2,210	1,069	-	*	2	4,061	10.9%
1994	55	*	6	112	-	1,279	281	-	*	*	1,733	4.6%
1995	19	-	2	63	2	1,215	167	-	-	*	1,468	3.9%
1996	13	-	*	194	12	2,016	233	-	2	*	2,470	6.6%
1997	29	-	*	143	9	3,294	432	-	*	*	3,907	10.5%
1998	33	-	8	553	18	1,962	341	-	*	*	2,915	7.8%
1999	7	*	4	189	3	798	94	-	*	*	1,095	2.9%
2000	14	-	*	138	1	916	36	-	*	*	1,105	3.0%
2001	*	-	*	73	2	1,835	9	-	*	*	1,919	5.1%
2002	9	-	20	159	12	1,593	72	-	-	5	1,870	5.0%
2003	4	-	27	231	11	1,755	459	-	-	3	2,490	6.7%
2004	*	-	258	305	56	1,335	724	-	*	2	2,680	7.2%
2005	*	-	4	29	3	1,117	306	-	*	3	1,462	3.9%
Total 90-05	355	0	385	3,203	148	26,372	6,881	0	8	15	37,367	
Percent 90-05	0.95%	0.00%	1.03%	8.57%	0.40%	70.58%	18.41%	0.00%	0.02%	0.04%	100.00%	
Mean 90-05	22	0	24	200	9	1,648	430	0	1	1	2,335	
Total 96-05	109	0	321	2,014	127	16,621	2,706	0	2	13	21,913	
Percent 96-05	0.50%	0.00%	1.46%	9.19%	0.58%	75.85%	12.35%	0.00%	0.01%	0.06%	100.00%	
Mean 96-05	11	0	32	201	13	1,662	271	0	0	1	2,191	

Note: * = less than 1,000 pounds; - = no landings.
Source: Unpublished dealer data.

Table 2. Tilefish commercial landings ('000 lb live weight) by gear, Maine through Virginia, 1996-2005 combined.

Gear	Pounds	Percent
Otter Trawl Bottom, Fish	1,973	9
Otter Trawl Bottom, Scallop	*	*
Otter Trawl Bottom, Shrimp	*	*
Otter Trawl Bottom, Other	*	*
Otter Trawl, Midwater	*	*
Gillnet, Drift, Other	88	*
Pots and Traps, Lobster, Inshore/Offshore Combined	26	*
Pots and Traps, Fish/Other Combined	9	*
Lines Hand, Other	179	*
Lines Long Set with Hooks	19,501	89
Lines Trawl, Other	6	*
Dredge Scallop, Sea	*	*
Dredge, Other	4	*
Unknown, Other Combined Gears	132	*
All Gear	21,918	100

Note: * = less than 1,000 pounds or less than 1%.
Source: Unpublished dealer data.

Table 3. Tilefish commercial landings (in '000 lb live weight) by month and state, 1996-2005 combined.

State	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	All
ME	5	9	9	15	21	18	3	3	6	10	2	10	111
NH	-	-	-	-	-	*	*	*	-	-	-	-	0
MA	23	38	106	73	12	64	4	*	*	*	1	2	323
RI	287	444	527	201	76	30	61	48	52	56	104	129	2,015
CT	16	33	58	11	3	*	*	*	*	1	1	2	125
NY	1,251	1,684	1,650	1,591	1,331	1,189	1,119	1,323	1,265	1,470	1,167	1,579	16,619
NJ	113	192	574	413	301	177	130	178	163	138	206	121	2,706
MD	-	-	*	*	1	*	*	*	*	*	*	-	1
VA	*	1	*	*	*	4	*	*	2	3	2	*	12
All	1,695	2,401	2,924	2,304	1,745	1,482	1,317	1,552	1,488	1,678	1,483	1,843	21,912

Note: * = less than 1,000 pounds; - = no landings.
Source: Unpublished dealer data.

Table 4. Tilefish commercial landings by year and gear (% of year total), Maine through Virginia combined, 1996-2005.

Gear	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Otter Trawl Bottom, Fish	9.9	4.5	10.7	5.8	8.9	7.1	9.9	11.6	16.3	2.2
Otter Trawl Bottom, Scallop	-	-	-	-	-	-	-	0.0	0.0	-
Otter Trawl Bottom, Shrimp	-	-	0.0	-	0.0	-	-	-	-	-
Otter Trawl Bottom, Other	0.0	-	-	-	-	-	-	-	-	0.0
Otter Trawl, Midwater	-	-	-	-	-	-	-	-	0.0	0.0
Gillnet, Drift, Other	0.0	0.0	0.0	0.2	1.0	0.0	0.1	0.0	1.6	2.0
Pots and Traps, Lobster, Inshore/Offshore Combined	0.0	-	0.0	0.0	0.0	-	-	0.3	0.7	-
Pots and Traps, Fish/Other Combined	-	-	-	0.3	-	0.0	0.0	0.0	0.1	0.3
Lines Hand, Other	0.0	0.0	0.0	0.2	0.0	0.0	0.7	0.7	5.3	0.2
Lines Long Set with Hooks	90.0	95.5	89.0	93.4	89.9	92.9	89.2	87.4	75.1	88.3
Lines Trawl, Other	-	-	-	-	0.0	-	-	-	0.2	0.1
Dredge Scallop, Sea	-	0.0	-	0.0	-	-	-	-	-	-
Dredge, Other	-	-	-	-	-	-	-	-	0.0	0.3
Unknown, Other Combined Gears	0.0	-	0.3	0.1	0.2	0.0	0.1	0.0	0.8	6.7
All Gear	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Note: - = no landings.
Source: Unpublished dealer data.

Table 5. Tilefish commercial landings by state and gear (% of state total), 1996-2005 combined.

Gear	ME	NH	MA	RI	CT	NY	NJ	MD	VA
Otter Trawl Bottom, Fish	10.2	-	16.1	58.4	97.6	3.5	0.9	-	14.6
Otter Trawl Bottom, Scallop	-	-	-	-	-	-	-	-	0.3
Otter Trawl Bottom, Shrimp	-	-	-	-	0.0	-	-	-	0.1
Otter Trawl Bottom, Other	-	-	-	0.0	0.2	-	-	0.2	-
Otter Trawl, Midwater	-	-	-	-	-	-	0.0	-	-
Gillnet, Drift, Other	7.7	100.0	0.8	0.3	-	0.0	2.6	8.9	0.0
Pots and Traps, Lobster, Inshore/Offshore Combined	-	-	7.2	0.0	-	0.0	-	-	11.8
Pots and Traps, Fish/Other Combined	-	-	-	0.0	1.0	0.0	0.0	6.8	26.5
Lines Hand, Other	0.0	-	52.9	0.0	-	0.0	0.0	9.6	10.6
Lines Long Set with Hooks	82.0	-	22.8	40.9	0.0	95.8	95.2	73.4	31.3
Lines Trawl, Other	-	-	-	-	0.6	0.0	0.0	-	-
Dredge Scallop, Sea	-	-	0.0	-	-	-	-	-	-
Dredge, Other	-	-	0.1	0.2	0.0	0.0	-	-	2.9
Unknown, Other Combined Gears	-	-	0.2	0.2	0.5	0.6	1.2	1.1	1.9
All Gear	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Note: - = no landings.
Source: Unpublished dealer data.

Table 6. Tilefish percent landings by statistical area and year, 1996-2005.

Year	Unknown	525	526	533	537	613	616	Other
1996	19.88	0.07	5.18	0.61	44.02	1.07	27.99	1.17
1997	23.30	0.03	0.67	0.01	56.21	2.59	16.40	0.80
1998	16.22	1.25	2.12	0.04	65.86	5.45	8.53	0.54
1999	2.57	0.97	0.21	0.01	55.07	3.68	36.79	0.70
2000	0.00	0.35	3.74	0.98	47.10	2.34	43.06	2.42
2001	-	0.23	3.14	0.01	23.31	3.22	69.44	0.64
2002	-	0.55	8.63	-	35.78	15.23	39.45	0.37
2003	-	0.89	1.80	0.08	38.80	11.94	46.07	0.42
2004	-	1.02	2.58	0.01	61.54	0.71	26.04	8.09
2005	-	0.11	0.21	1.77	66.68	5.34	22.13	3.77

Note: - = no landings.
Source: Unpublished vessel trip report data.

Table 7. Catch disposition for directed tilefish trips[a], Maine through Virginia, 1996-2005 combined.

Common Name	Kept lbs	% species	% total	Discarded lbs	% species	% total	Total lbs	Disc: Kept Ratio
TILEFISH	17,055,154	100.00%	99.43%	254	0.00%	1.90%	17,055,408	0.00
SILVER HAKE	36,708	100.00%	0.21%	0	0.00%	0.00%	36,708	0.00
WHITE HAKE	12,194	100.00%	0.07%	0	0.00%	0.00%	12,194	0.00
YELLOWFIN TUNA	9,848	100.00%	0.06%	0	0.00%	0.00%	9,848	0.00
SANDBAR SHARK	8,389	100.00%	0.05%	0	0.00%	0.00%	8,389	0.00
ANGLER	5,997	99.67%	0.03%	20	0.33%	0.15%	6,017	0.00
KING WHITING	1,924	100.00%	0.01%	0	0.00%	0.00%	1,924	0.00
BLUEFISH	1,899	100.00%	0.01%	0	0.00%	0.00%	1,899	0.00
PORBEAGLE SHARK	1,775	100.00%	0.01%	0	0.00%	0.00%	1,775	0.00
CONGER EEL	1,577	94.04%	0.01%	100	5.96%	0.75%	1,677	0.06
OTHER FISH	1,529	100.00%	0.01%	0	0.00%	0.00%	1,529	0.00
DOLPHIN FISH	1,467	100.00%	0.01%	0	0.00%	0.00%	1,467	0.00
MIX RED & WHITE HAKE	1,374	100.00%	0.01%	0	0.00%	0.00%	1,374	0.00
YELLOWTAIL FLOUNDER	1,313	100.00%	0.01%	0	0.00%	0.00%	1,313	0.00
MAKO SHARK	1,210	100.00%	0.01%	0	0.00%	0.00%	1,210	0.00
POLLOCK	1,177	100.00%	0.01%	0	0.00%	0.00%	1,177	0.00
RED HAKE	1,163	99.15%	0.01%	10	0.85%	0.07%	1,173	0.01
MAKO SHORTFIN SHARK	1,129	100.00%	0.01%	0	0.00%	0.00%	1,129	0.00
BLACK SEA BASS	1,004	100.00%	0.01%	0	0.00%	0.00%	1,004	0.00
BLACK BELLIED ROSEFISH	931	100.00%	0.01%	0	0.00%	0.00%	931	0.00
SPINY DOGFISH	924	6.91%	0.01%	12,450	93.09%	93.37%	13,374	13.47
SKATES	892	64.08%	0.01%	500	35.92%	3.75%	1,392	0.56
CUSK	533	100.00%	0.00%	0	0.00%	0.00%	533	0.00
AMERICAN EEL	310	100.00%	0.00%	0	0.00%	0.00%	310	0.00
GROUPER	308	100.00%	0.00%	0	0.00%	0.00%	308	0.00
BLACK WHITING	308	100.00%	0.00%	0	0.00%	0.00%	308	0.00
MAKO LONGFIN SHARK	304	100.00%	0.00%	0	0.00%	0.00%	304	0.00
COD	289	100.00%	0.00%	0	0.00%	0.00%	289	0.00
BLUELINE TILEFISH	278	100.00%	0.00%	0	0.00%	0.00%	278	0.00
BULL SHARK	264	100.00%	0.00%	0	0.00%	0.00%	264	0.00
DOGFISH (NK)	211	100.00%	0.00%	0	0.00%	0.00%	211	0.00
BLUEFIN TUNA	198	100.00%	0.00%	0	0.00%	0.00%	198	0.00
SHARK (NK)	165	100.00%	0.00%	0	0.00%	0.00%	165	0.00

Table 7 (continued). Catch disposition for directed tilefish trips[a], Maine through Virginia, 1996-2005 combined.

Common Name	Kept lbs	% species	% total	Discarded lbs	% species	% total	Total lbs	Disc: Kept Ratio
DUSKY SHARK	148	100.00%	0.00%	0	0.00%	0.00%	148	0.00
ALBACORE TUNA	142	100.00%	0.00%	0	0.00%	0.00%	142	0.00
SWORDFISH	83	100.00%	0.00%	0	0.00%	0.00%	83	0.00
REDFISH	76	100.00%	0.00%	0	0.00%	0.00%	76	0.00
LOLIGO SQUID	70	100.00%	0.00%	0	0.00%	0.00%	70	0.00
TIGER SHARK	64	100.00%	0.00%	0	0.00%	0.00%	64	0.00
SCUP	60	100.00%	0.00%	0	0.00%	0.00%	60	0.00
TUNA (NK)	47	100.00%	0.00%	0	0.00%	0.00%	47	0.00
AMBER JACK	24	100.00%	0.00%	0	0.00%	0.00%	24	0.00
BUTTERFISH	15	100.00%	0.00%	0	0.00%	0.00%	15	0.00
NORTHERN PUFFER	12	100.00%	0.00%	0	0.00%	0.00%	12	0.00
ALL SPECIES	17,153,487	99.92%	100.00%	13,334	0.08%	100.00%	17,166,821	0.00

[a]Directed trips for tilefish were defined as trips comprising 75% or more by weight of tilefish landed.
Source: Unpublished vessel trip report data.
Number of trips = 1,263.

Table 8. Recreational tilefish data from marine recreational fishery statistics survey (MRFSS).

Year	no. of fish measured	Landed no. A and B1	Released no. B2	A and B1 kg	A and B1 lb
1982	0	984	0	98	216
1983	0	0	0	0	0
1984	0	0	0	0	0
1985	0	0	0	0	0
1986	0	0	0	0	0
1987	0	0	0	0	0
1988	0	0	0	0	0
1989	0	0	0	0	0
1990	0	0	0	0	0
1991	0	0	0	0	0
1992	0	0	0	0	0
1993	0	0	0	0	0
1994	0	608	0	0	0
1995	0	0	0	0	0
1996	0	10,167	0	0	0
1997	0	0	0	0	0
1998	0	0	0	0	0
1999	0	0	0	0	0
2000	0	0	0	0	0
2001	0	148	0	0	0
2002	0	20,068	1,338	0	0
2003	18	722	0	2,126	4,687
2004	3	90	0	206	454

1 kg = 2.20462 lb.
Source: Table modified from SAW 41 (fishery statistics from ME through NC).

Table 9. Catch disposition for directed tilefish trips[a], NMFS observer program data base, 2004 through June 13 2006 combined.

Common Name	Kept lbs	% species	% total	Discarded lbs	% species	% total	Total lbs	Disc: Kept Ratio
TILEFISH	121,315	99.94%	99.09%	74	0.06%	0.34%	121,389	0.00
CONGER EEL	578	84.13%	0.47%	109	15.87%	0.50%	687	0.19
WHITE HAKE	251	98.43%	0.21%	4	1.57%	0.02%	255	0.02
EEL UNCLASIFIED	180	99.45%	0.15%	1	0.55%	0.00%	181	0.01
BUTTERFISH	64	45.71%	0.05%	76	54.29%	0.35%	140	1.19
BLACK SEA BASS	28	70.00%	0.02%	12	30.00%	0.06%	40	0.43
MONKFISH	12	100.00%	0.01%	0	0.00%	0.00%	12	0.00
BARNDOOR SKATE	0	0.00%	0.00%	129	100.00%	0.60%	129	-
FOURSPOT FLOUNDER	0	0.00%	0.00%	1	100.00%	0.00%	1	-
JONAH CRAB	0	0.00%	0.00%	2	100.00%	0.01%	2	-
RED HAKE	0	0.00%	0.00%	1	100.00%	0.00%	1	-
SEATROUT	0	0.00%	0.00%	12	100.00%	0.06%	12	-
SMOOTH DOGFISH	0	0.00%	0.00%	74	100.00%	0.34%	74	-
SPINY DOGFISH	0	0.00%	0.00%	20,894	100.00%	96.73%	20,894	-
SPOTTED HAKE	0	0.00%	0.00%	59	100.00%	0.27%	59	-
WINTER SKATE	0	0.00%	0.00%	152	100.00%	0.70%	152	-
ALL SPECIES	122,428	85.00%	100.00%	21,600	15.00%	100.00%	144,028	0.18

[a]Directed trips for tilefish were defined as trips comprising 75% or more by weight (live) of tilefish landed.
Source: Paul Nitschke (NMFS/NEFSC). Observer data as of June 13 2006.
Number of trips = 8.

Table 10. Descriptive data from northeast region permit files for commercial vessels holding limited access tilefish permits, 2005.

	Permit type[a]	NY	MA	ME	NJ	NC	RI	Other
No. of Permits by Mailing Address State	FTT1	3	0	0	0	0	0	0
	FTT2	1	1	1	2	0	0	0
	PT	0	5	1	12	1	3	0
No. of Permits by Home Port State	FTT1	3	0	0	0	0	0	0
	FTT2	1	1	1	1	0	0	1
	PT	0	5	1	11	1	3	1
No. of Permits by Principal Port State	FTT1	3	0	0	0	0	0	0
	FTT2	1	1	0	2	0	0	1
	PT	0	5	1	11	1	3	1
Average Length by Principal Port	FTT1	70	-	-	-	-	-	-
	FTT2	59	49	9	76	-	-	9
	PT	-	64	42	57	42	76	78
Average Tonnage by Principal Port	FTT1	73	-	-	-	-	-	-
	FTT2	68	35	-	91	-	-	1
	PT	-	88	24	60	27	139	114
Average Horse Power by Principal Port	FTT1	444	-	-	-	-	-	-
	FTT2	500	375	-	547	-	-	2
	PT	-	477	250	506	325	645	-
Average Crew Size by Principal Port	FTT1	5	-	-	-	-	-	-
	FTT2	3	3	2	6	-	-	-
	PT	-	5	5	4	2	5	-
Percent Home Port Equal Principal Port	FTT1	100	-	-	-	-	-	-
	FTT2	100	100	0	50	-	-	-
	PT	-	60	100	83	100	33	-

[a]FTT1 = Full-time Tier 1 permit; FTT2 = Full-time tier 2 permit; PT = Part-time permit.

Table 11. Tilefish commercial ex-vessel value and price[a] by year, Maine through Virginia combined.

Year	Nominal Value (in '000 $)	Nominal Price (mean)	Adjusted Price[b] (mean)
1996	4,159	1.83	1.49
1997	4,869	1.36	1.10
1998	4,793	1.79	1.42
1999	2,557	2.54	2.03
2000	2,479	2.45	2.42
2001	3,310	1.88	1.60
2002	3,502	2.04	1.70
2003	3,608	1.58	1.39
2004	3,461	1.41	1.31
2005	3,345	2.48	2.48

[a]Price was estimated by dividing landed pounds by ex-vessel value.

[b]Prices were adjusted to 2005 equivalents using the Bureau of Labor's Producer Price Index.
Source: Unpublished dealer data.

Table 12. Tilefish commercial ex-vessel value and price[a] by state, 2005.

State	Landings[b] ('000 lb)	Ex-vessel value ('000 $)	Price ($/lb)
ME	*	*	1.98
NH	0	0	0.00
MA	4	6	1.38
RI	27	42	1.59
CT	3	5	1.67
NY	1,028	2,717	2.64
NJ	281	570	2.03
MD	*	*	1.40
VA	3	5	1.64
Coastwide	1,347	3,345	2.48

[a]Price was estimated by dividing landed pounds by ex-vessel value.

[b]Landed pounds
Source: Unpublished dealer data.

Table 13. Tilefish commercial ex-vessel value ('000 $) by month and state, 1996-2005 combined.

State	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	All
ME	11	19	20	24	34	28	5	4	10	10	2	17	184
NH	-	-	-	-	-	*	*	*	-	-	-	-	0
MA	25	35	103	57	17	64	8	2	*	*	1	2	314
RI	357	461	582	250	119	64	129	87	100	100	155	157	2,561
CT	14	30	45	10	3	*	*	*	*	1	2	3	108
NY	2,549	2,894	3,033	2,890	2,143	2,030	1,976	2,261	2,193	2,411	1,934	2,686	29,000
NJ	205	287	785	540	365	216	208	293	274	175	335	208	3,891
MD	-	-	1	*	2	*	*	*	*	1	*	-	4
VA	*	1	*	*	*	6	*	*	2	3	3	*	15
All	3,161	3,727	4,569	3,771	2,683	2,408	2,326	2,647	2,579	2,701	2,432	3,073	36,077

Note: * = less than $ 1,000; - = no landings.
Source: Unpublished dealer data.

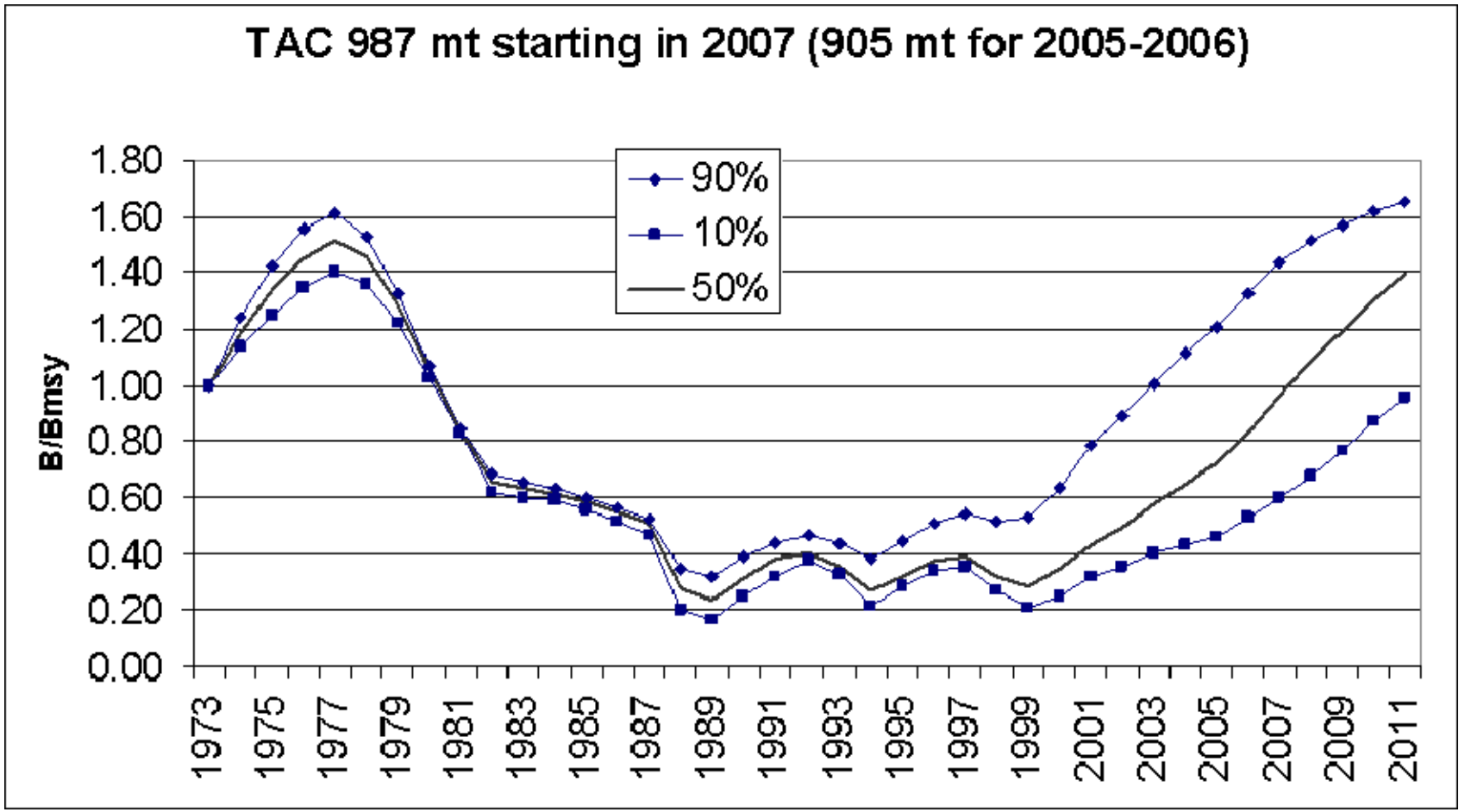

Figure 1. Tilefish rebuilding with 80% confidence intervals based on a live weight quota of 2.175 million pounds (987 mt) annually, starting November 1, 2006.

Source: Nitschke pers. com.

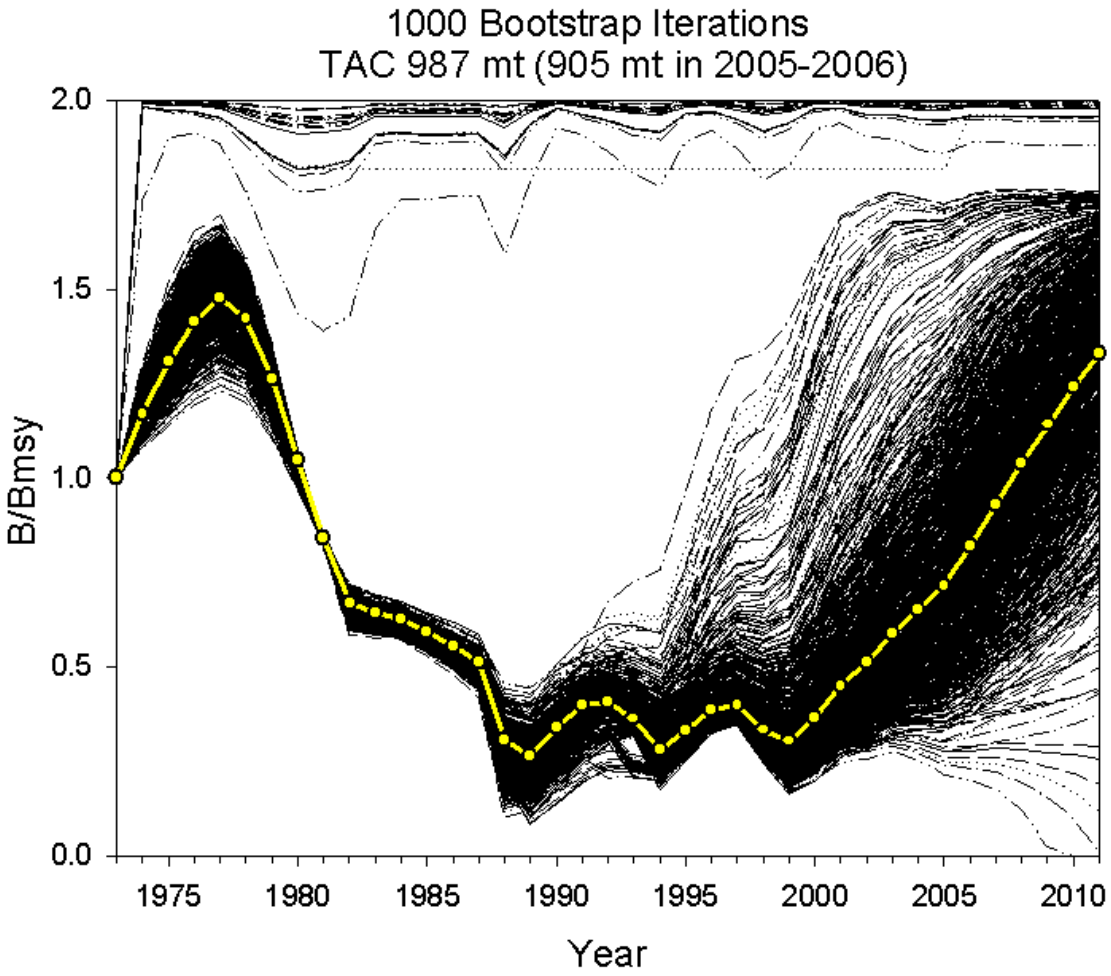

Figure 2. 1000 bootstrap iterations of tilefish rebuilding based on a live weight quota of 2.175 million pounds (987 mt) annually, starting November 1, 2006.

Source: Nitschke pers. com.

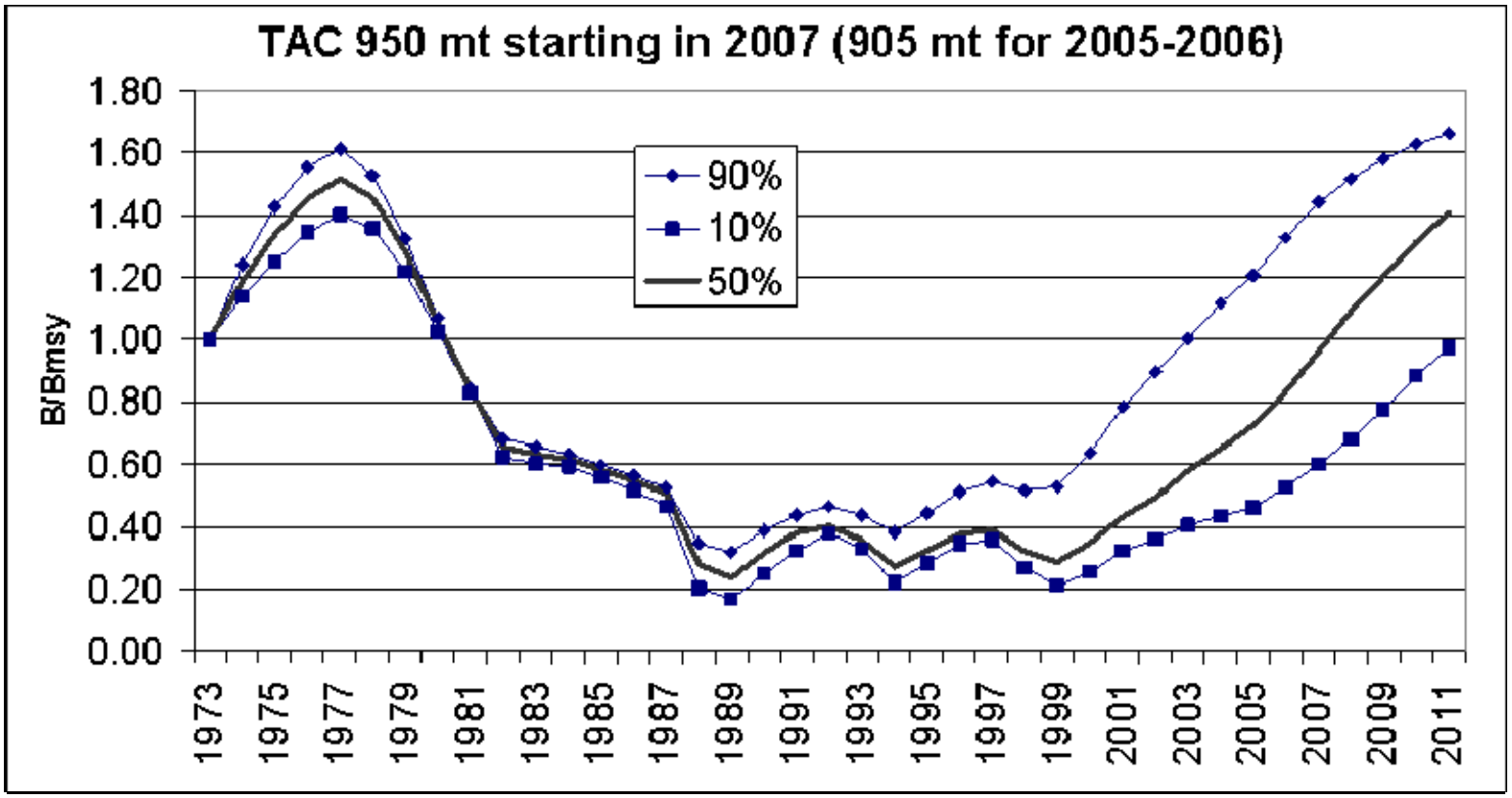

Figure 3. Tilefish rebuilding with 80% confidence intervals based on a live weight quota of 2.095 million pounds (950 mt) annually, starting November 1, 2006.

Source: Nitschke pers. com.

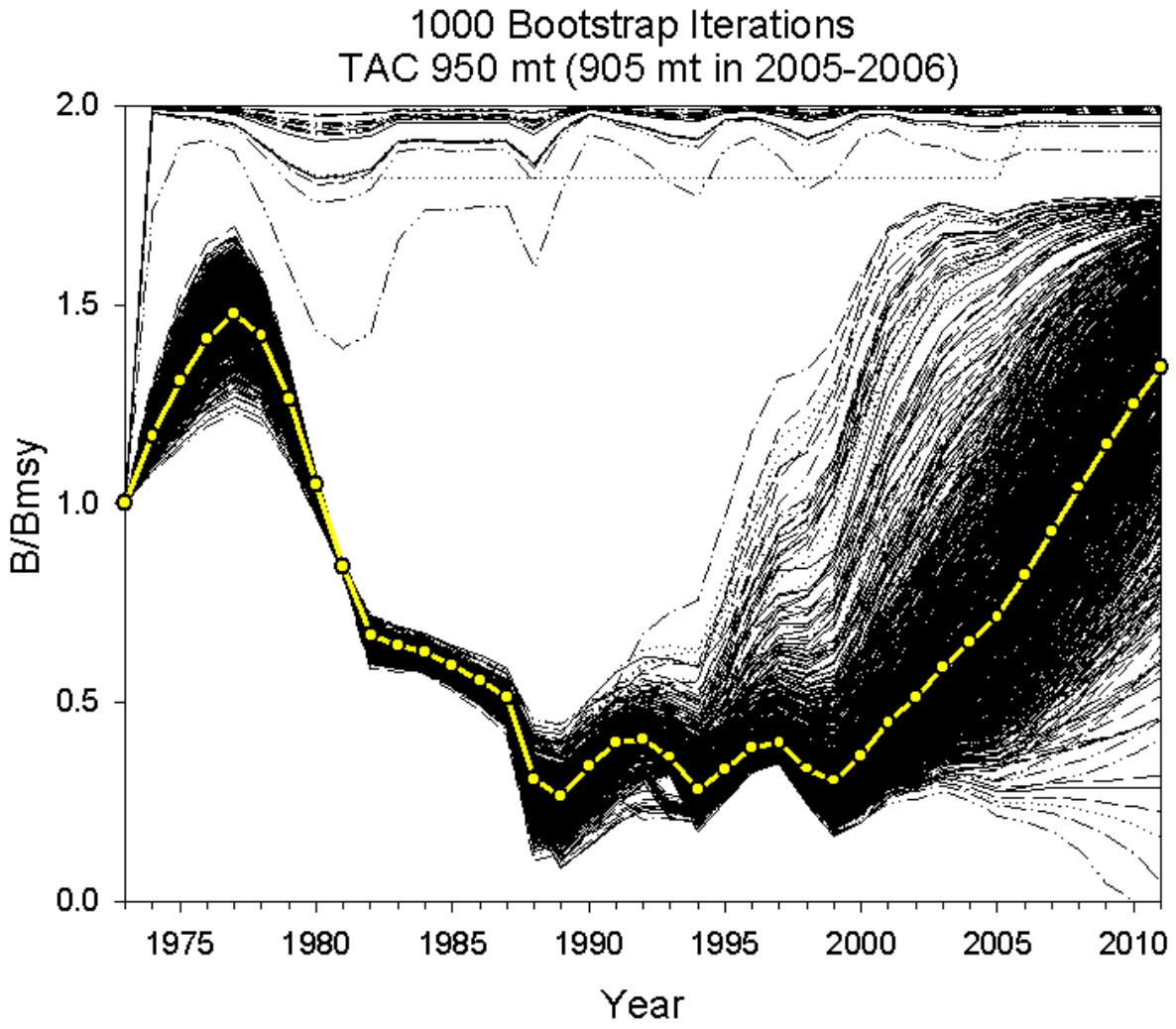

Figure 4. 1000 bootstrap iterations of tilefish rebuilding based on a live weight quota of 2.095 million pounds (950 mt) annually, starting November 1, 2006.

Source: Nitschke pers. com.

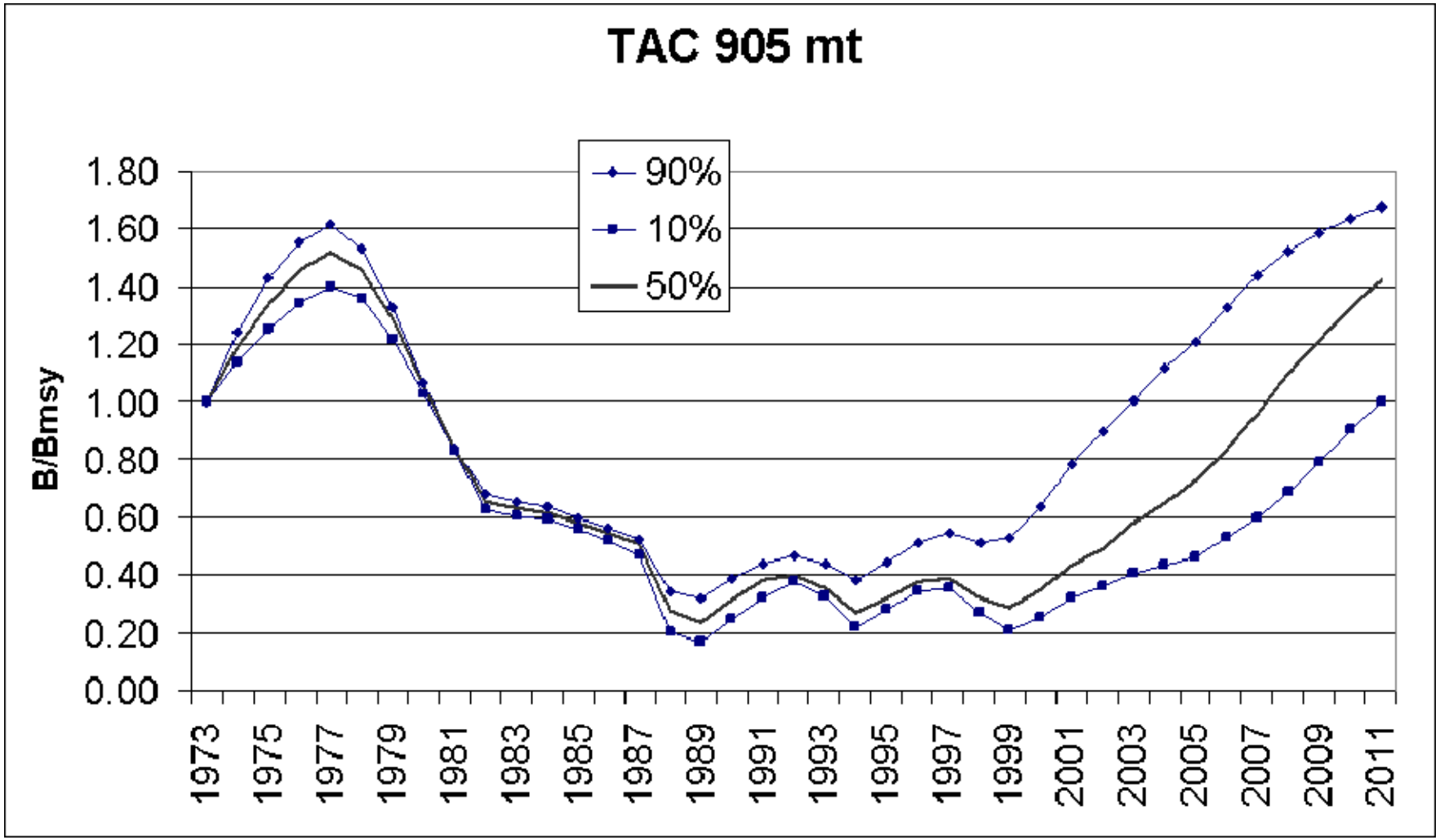

Figure 5. Tilefish rebuilding with 80% confidence intervals based on a live weight quota of 1.995 million pounds (905 mt) annually, starting November 1, 2006.

Source: Nitschke pers. com.

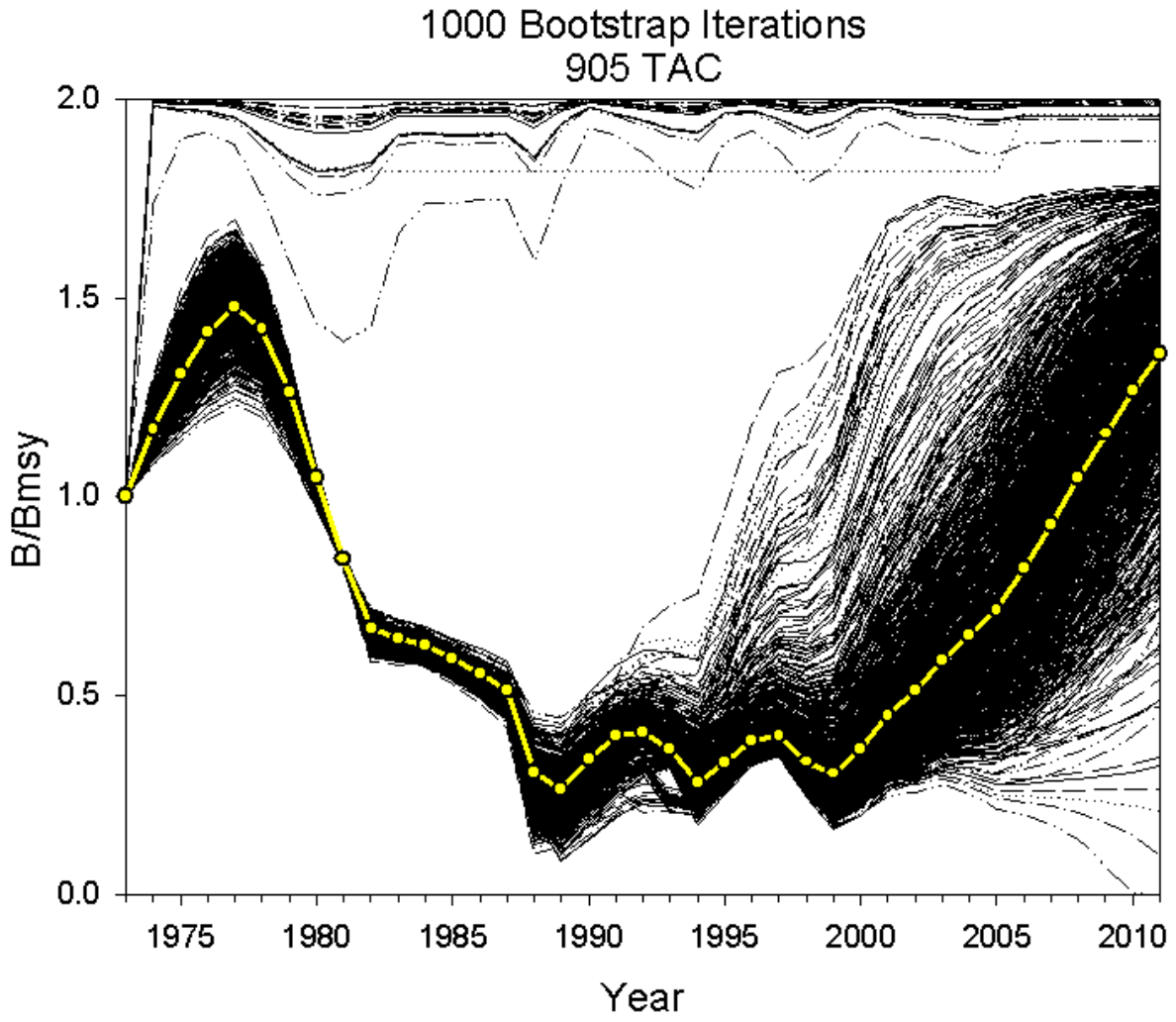

Figure 6. 1000 bootstrap iterations of tilefish rebuilding based on a live weight quota of 1.995 million pounds (905 mt) annually, starting November 1, 2006.
Source: Nitschke pers. com.

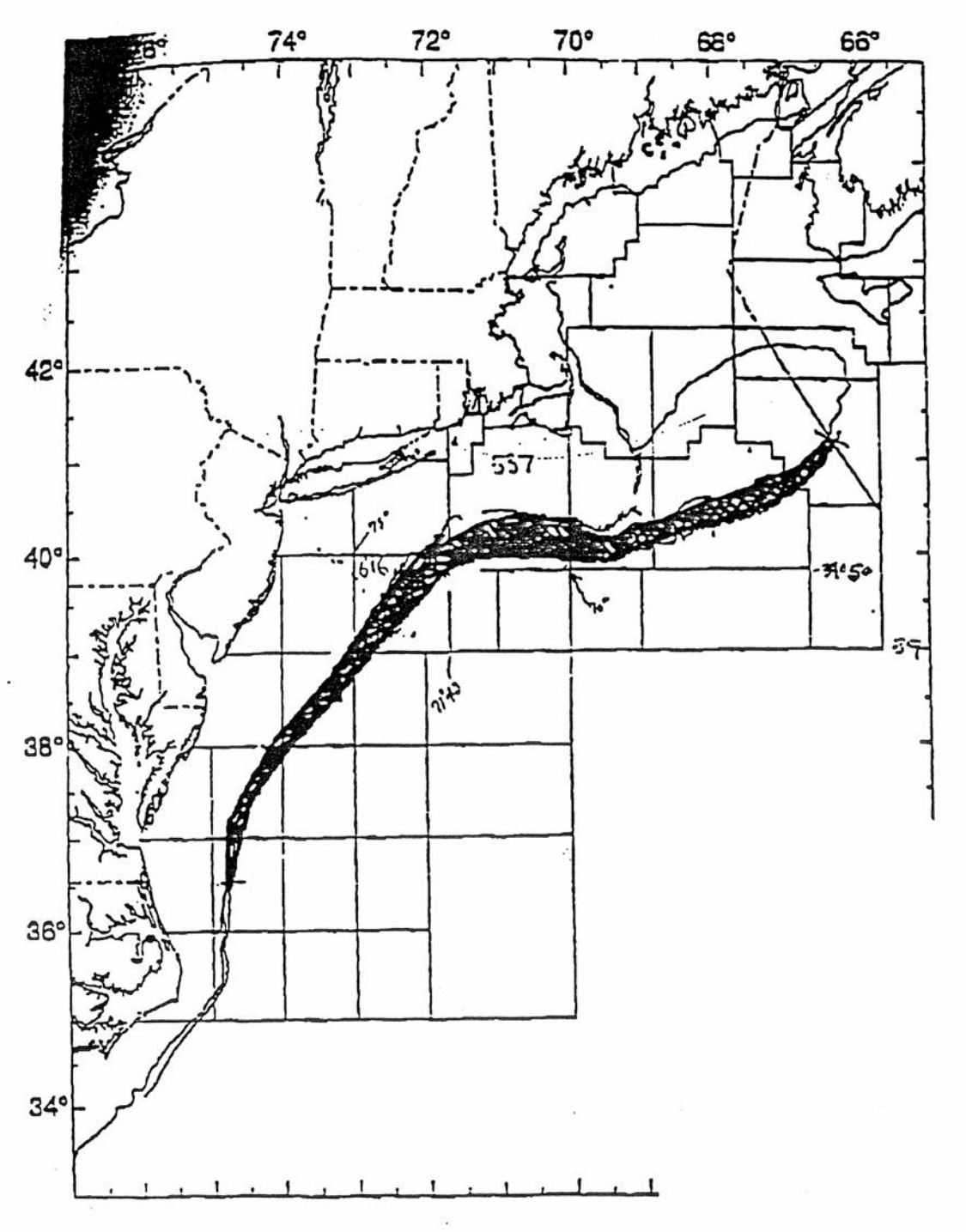

Figure 7. Tilefish distribution and essential fish habitat (250-1200 foot isobaths) between the Hague Line and the North Carolina/Virginia border.